BLAUPUNKT RTV211EG

MODEL

SERVICE MANUAL

ORDER NO. VRD-8204-080

Service Manual

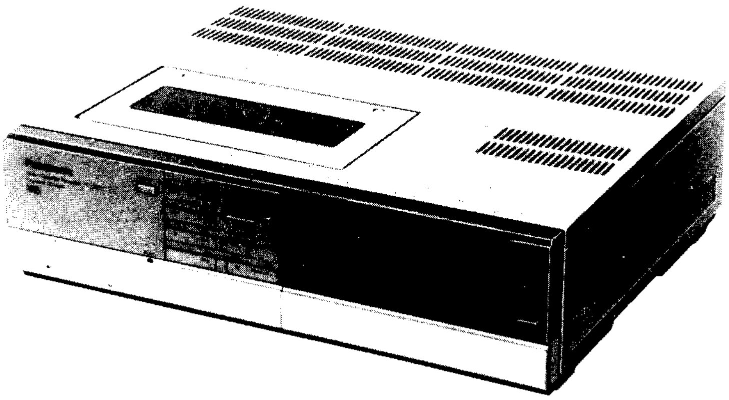
Video Cassette Recorder

Panasonic VHS

NV-333 -E -EG -B -EO

Vol. 1

Summary Operating Instructions



SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-333-E, EG, EO)
240V AC 50/60Hz (NV-333B)
Power Consumption: Approx. 36 watts (NV-333-E, EG, EO)
Approx. 39 watts (NV-333-B)
Television System: CCIR: 625 lines, 50 fields
PAL colour signal (NV-333-E/-B/-EO)
CCIR: 625 lines, 50 fields
PAL/DDR SECAM colour signal
(NV-333-EG,)
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier phase shift recording
Audio Track: 1 track
Tape Format: Tape width 12.7mm high density tape
Tape Speed: 23.39mm/s
Record/Playback Time: 240 min. with NV-E240
FF/REW Time: Less than 6.5 min. with NV-E240
Heads: Video: 2 rotary heads
Audio/Control: 1 stationary head
Erase: 1 full track erase
Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminate
Audio: LINE IN jack
More than −20dB, more than 50kΩ

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminate
Audio: LINE OUT jack
−6dB, less than 1kΩ
RF Modulated: UHF channel 36 ± 4CH
75Ω terminate
Weight: 8.4kg
Dimensions: 430(W) × 125(H) × 358(D)mm
Accessory Supplied: 1 pc. DIN-RF Cable VJA0176
1 pc. Video Cassette Tape
NV-E30 (NV-333-E/EG/EO)
1 pc. Video Cassette Tape
NV-E60 (NV-333-B)

Optional Accessories: Video cassette tape:
NV-E240 Approx. 344m, 240 min.
NV-E180 Approx. 258m, 180 min.
NV-E120 Approx. 174m, 120 min.
NV-E60 Approx. 88m, 60 min.
Video Camera, WV-2600E,
WV-3000E, WV-3200E
Remote Control Unit, NV-A33E

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Tradi
P.O. Box 288, Central

INTRODUCTION

This service manual contains technical information which will allows service technicians to understand and service the Panasonic PAL VHS Video Tape Recorder Models NV-333-E/-EG/-B/-EO.

The NV-333-E/-EG/-B/-EO have many special features as shown below.

These features in addition to the basic PAL VHS Format make the unit an ideal one for your culture and entertainment.

FEATURES

1. **Cue/Review operation**
   You can locate a desired section with ease as you view the playback picture at 5 times normal speed in forward or reverse direction.
2. **One-touch timer recording (OTR)**
   Automatic recording for 30, 60, 90 or 120 minutes is possible at the push of a button.
3. **Picture sharpness control function**
   The picture quality control enables the playback picture to be adjusted so that its outlines are made sharper or softer.
4. **Automatic Rewind**
   The recorder automatically rewinds the tape at the end of a tape except when timer recording.
5. **14 days Timer recording**
   The built-in timer allows you to record a TV programme up to 14 days ahead. What's more, you can even automatically record every-day programmes that are broadcast in the same time and channel over the full-length of a cassette.
   All you have to do is to set the timer correctly, and you can go away without missing those "must-see" programmes.
6. **Fine editing function**
   The unit eliminates the editing problem common to ordinary VTRs. When a recording is paused, the tape will be automatically rewound slightly to reduce any interference to a minimum. Continuity between cuts is smooth.

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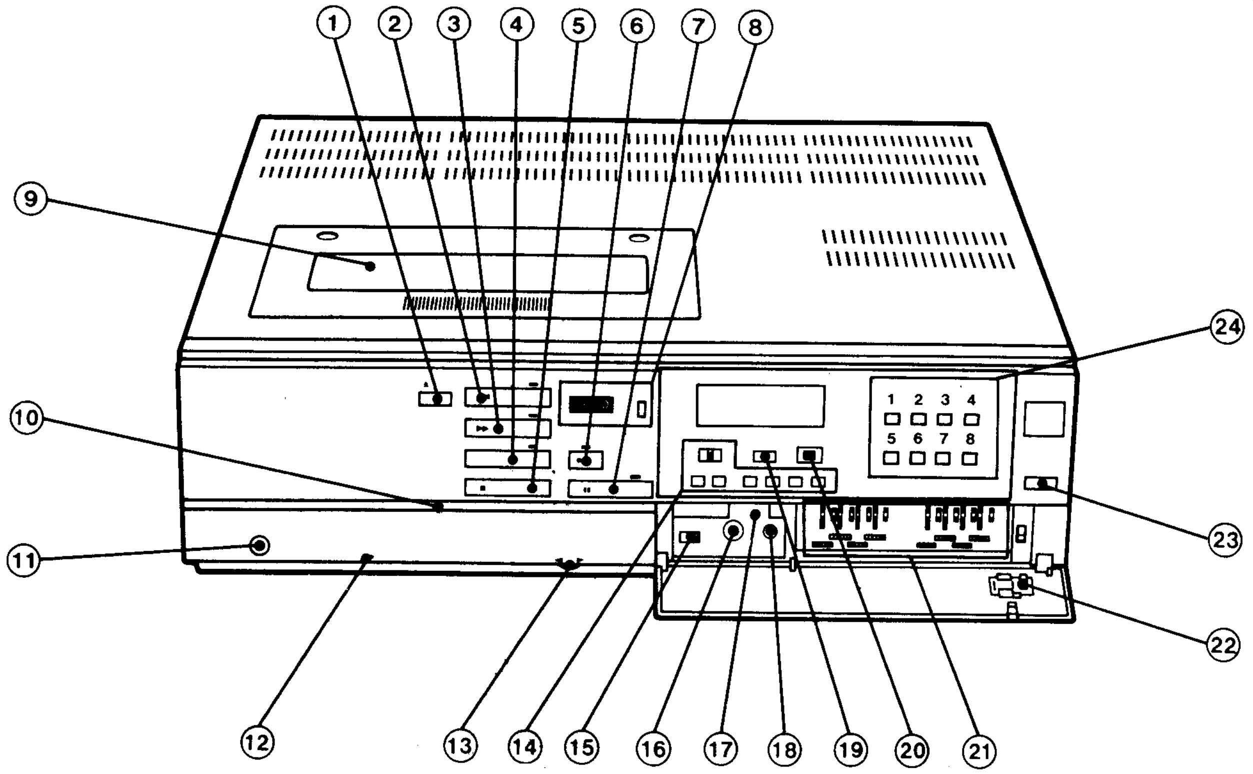
CONTROLS AND COMPONENTS

TOP and FRONT



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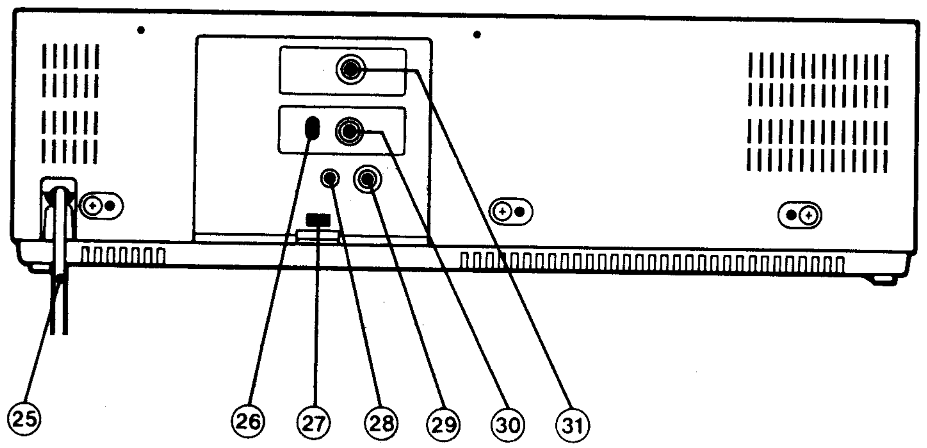

For model NV-333-EO
The channel selectors and tuning control section differ partially from those illustrated in the figures.

FUNCTION OF CONTROLS AND COMPONENTS

TOP and FRONT

① **Eject Button**
Push to raise the cassette holder.

② **Rewind Button**
Push to rewind the tape.
When this button is pressed during playback, the picture can be scanned in reverse at 5 times normal speed. Review will continue as long as the button is depressed.

③ **Fast Forward Button**
Push to fast-forward wind the tape.
When this button is pressed during playback, the picture can be scanned will play back at 5 times normal speed. Cueing will continue as long as the button is depressed.

④ **Play Button**
Push to play back a recorded tape.

⑤ **Stop Button**
Push to stop the tape.
This button must be pushed before "Eject".

⑥ **Record Button**
Push together with Play Button to start recording.

⑦ **Pause Button**
Push to temporarily stop the tape during recording in order to avoid recording unwanted material, or to view a paused picture during playback. Push again to release the tape from pause.

⑧ **Tape Counter/Reset Button**
The counter indicates how far the tape has moved. It is very useful for locating a desired part of the tape. Push the reset button to reset the tape counter to "0000".

⑨ **Cassette Holder**
For insertion of a video cassette.
Keep closed except when inserting or removing a cassette.

⑩ **Moisture Indicator Lamp**
Lights up if excessive moisture condenses inside the unit. The unit WILL NOT operate while this lamp is on. If this happens, leave the unit ON, and let it remain at room temperature until the lamp goes off. The time required varies with the environment, but the moisture will disappear within a few hours.

⑪ **Remote Control Jack**
For Connection of the optional remote controller.

⑫ **Tracking Control**

Noisy Picture

Should tapes recorded on another machine show noise or a streaky playback picture rotate this control slowly in either direction until the picture is clear. The control should normally be kept in the "FIX" position.

⑬ **Picture sharpness control**
The picture sharpness control enables the playback picture to be adjusted so that its outlines are made sharper or softer.
It has no effect when recording.

⑭ **Digital Clock/Timer Controls**
The digital clock displays the time. The timer controls are used to set the clock for the present time and tó programme start and stop times for timer recording.

⑮ **Input Signal Selector**
Used to select between the two incoming signals from which recordings can be made.
1) In the "CAMERA" position, the signal which is connected to the Video Input Connector and the Audio Input Jack will be recorded.
2) In the "TUNER" position, the signal from the built-in tuner will be recorded.

⑯ **Video Input Connector**
For connection of a video camera or other video input signai to be recorded.

⑰ **Camera Remote Pause Jack**
For connection of a remote-control cable from a video camera.

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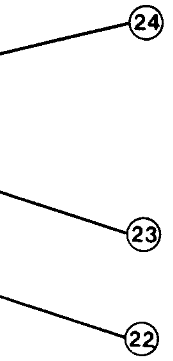

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⑯ **Video Input Connector**
For connection of a video camera or other video input signal to be recorded.

⑰ **Camera Remote Pause Jack**
For connection of a remote-control cable from a video camera.

⑱ **Audio Input Jack**
For connection of a video camera audio output or other audio line input signal to be recorded.

⑲ **Timer Rec Switch**
Push after programming the unit for timer recording. When this switch is on, you CANNOT operate the unit manually.

⑳ **One-touch timer recording (OTR) Button**
Automatic recording for 30, 60, 90 or 120 minutes is possible by pushing this button.

㉑ **Tuning Controls**
Used to tune to any broadcast channel in your area.

㉒ **Automatic-Fine tuning-Control Switch**
To ensure optimum tuning the automatic Fine tuning control switch should be left in the "ON" position.
When the cover of the tuning controls is opened the AFC is automatically switched OFF.

㉓ **VTR Switch**
Turns the recorder on and off.
- The Digital Clock will operate regardless of the position of this switch.

㉔ **Channel Selector Buttons/Indicator Lamps**
Push the desired channel selector buttons to select the channel you wish to view or record.
(NV-333EO: 12 channels).

REAR

㉕ **AC Power Cord**

㉖ **RF Signal Level Switch**
Used to attenuate the reception of the VHF and/or UHF antenna signals.
If the reception is normal, set to "HIGH". If the signal strength is high and a stripped pattern appears at the top of the picture on TV, set to "LOW".

㉗ **Colour Mode/Test Signal Switch**
This switch has the following two functions:
(1) to tune the TV to the RF output channel and (2) to stabilize the colour image during recording or playback. The switch should normally be set to the "AUTO" position.
To tune the television to the RF output channel:
Move this switch to "TEST". The tuning procedure for the playback channel on the TV is explained in more detail on page 1-6.
To stabilize the colour image:
Move this switch to "COLOUR" to make a stable colour recording in a place where the supplied current is extremely low.
For playback, this switch must also be in "COLOUR".

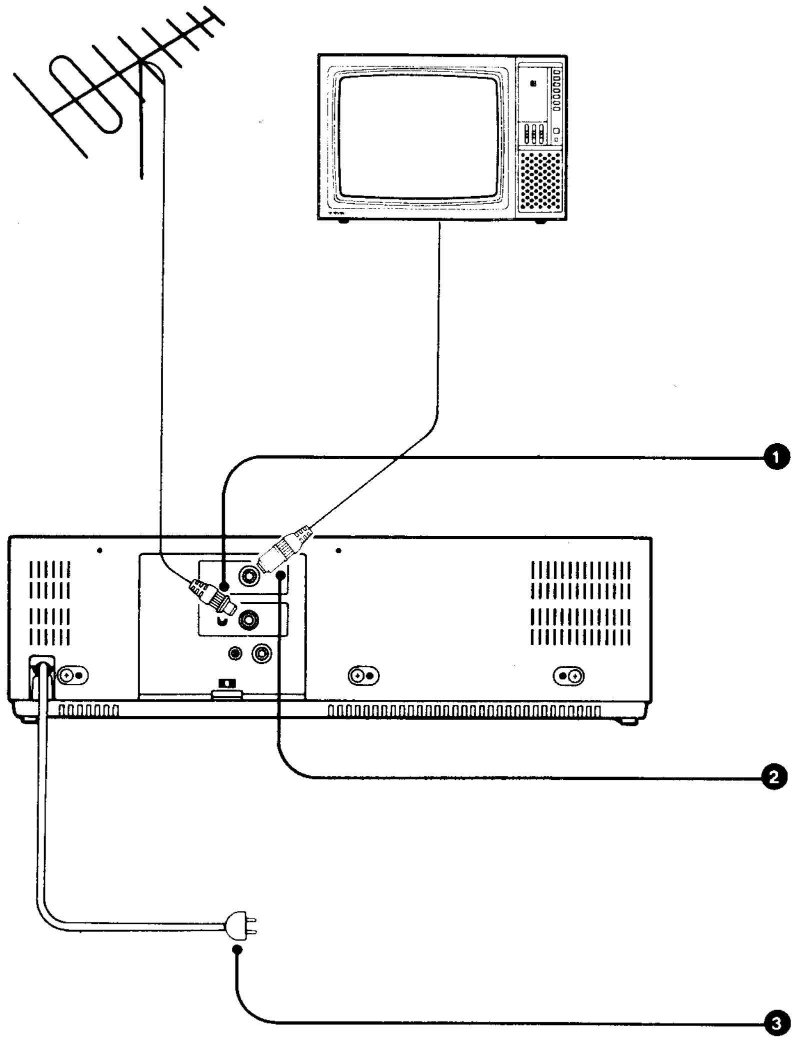
㉘ **Audio Output Jack**
For connection to a TV monitor or another Video Cassette Recorder. Not used with an ordinary TV.

㉙ **Video Output Connector**
For connection to a TV monitor or another Video Cassette Recorder. Not used with an ordinary TV.

㉚ **RF Input Connector**
For connection with the external aerial.

㉛ **RF Output Connector**
For connection to the antenna terminal (COAXIAL type) of TV with the DIN-DIN Coaxial Cable supplied with the unit.

INSTALLATION



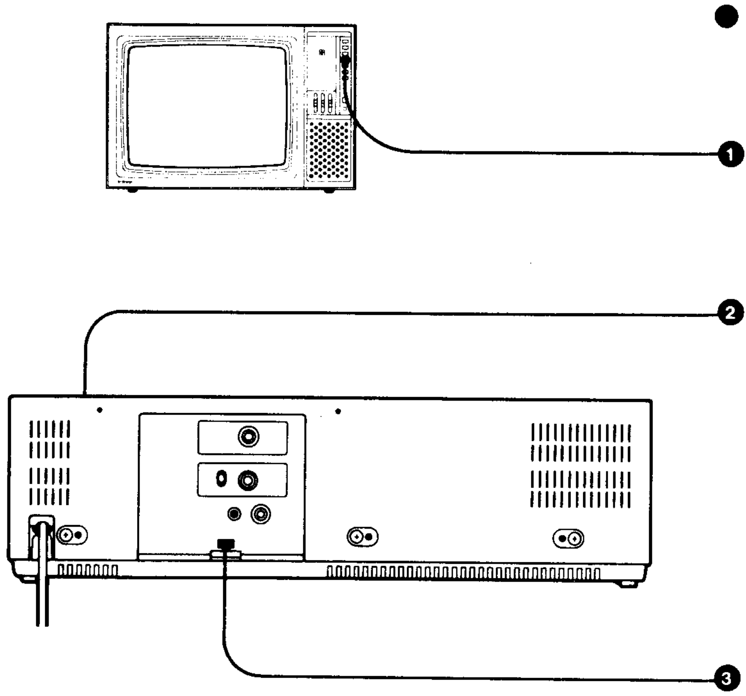
❶ Connect the external aerial to the RF Input Connector.

❷ Connect your TV to the RF Output Connector with the supplied DIN-DIN Coaxial Cable.

❸ Plug in to the mains.

RF OUTPUT CHANNEL

The built-in RF converter will allow you to play back the tape on your TV through an unused broadcast channel.
For this purpose your TV must be tuned to the RF output channel in the following way.

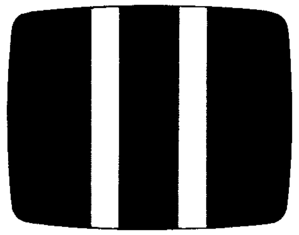


● Make connection as shown in the section entitled "INSTALLATION" on page 1-5.

❶ Turn **TV ON** and select a spare channel that will be used for playback, in some cases this may be marked AV or VCR.

❷ Turn the **unit ON**.

❸ Set **Colour Mode/Test Signal Switch** to **"TEST"** position and tune the selected channel on the TV until the pattern shown below is received.

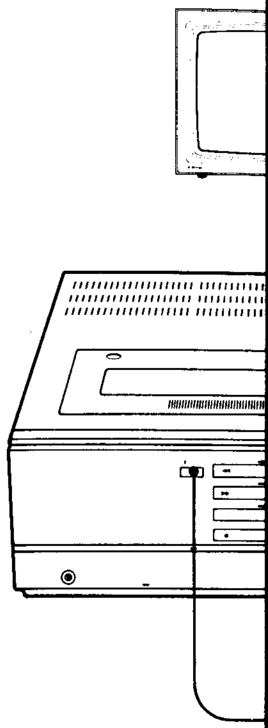


❹ Set **Colour Mode/Test Signal Switch** to **"AUTO"**.

Your TV is now ready to receive the RF output signal from the unit.

Note:
When Colour Mode/Test Signal Switch is in "TEST", the black and white pattern will be seen on TV. When it is in "AUTO", you can use the unit normally. If, during recording or playback, the colour is not satisfactory, it can be stabilized by setting this switch to "COLOUR".

BASIC OPER



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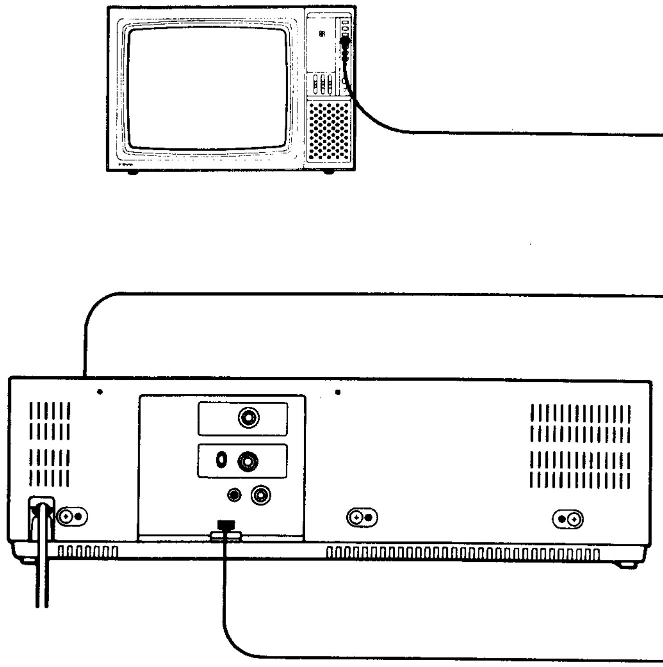

- Make connection as shown in the section entitled "INSTALLATION" on page 1-5.

❶ Turn **TV ON** and select a spare channel that will be used for playback, in some cases this may be marked AV or VCR.

❷ Turn the **unit ON**.

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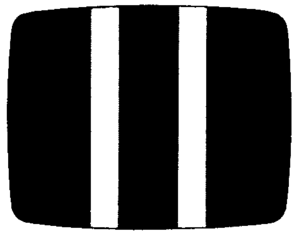
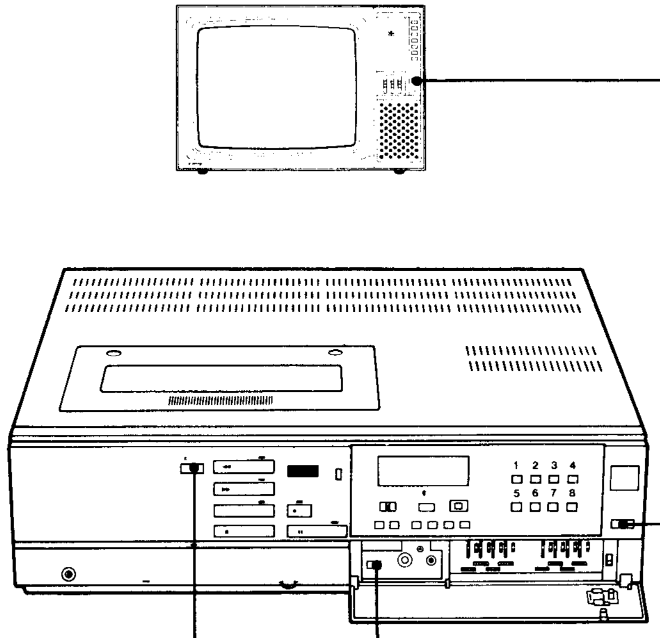


❹ Set **Colour Mode/Test Signal Switch** to **"AUTO"**.

Your TV is now ready to receive the RF output signal from the unit.

Note:
When Colour Mode/Test Signal Switch is in "TEST", the black and white pattern will be seen on TV. When it is in "AUTO", you can use the unit normally. If, during recording or playback, the colour is not satisfactory, it can be stabilized by setting this switch to "COLOUR".

BASIC OPERATION



To prepare for recording and playback

❶ Turn **TV ON**.

❷ Select the **RF OUTPUT CHANNEL** on the TV.

❸ Turn **RECORDER ON**.

❹ Push **EJECT Button**, insert **VIDEO CASSETTE** into Cassette Holder and press this down until it locks in position.

❺ Set **INPUT SIGNAL SELECTOR** to **"TUNER"**.
In case of camera recording, set this selector to CAMERA.
It is not necessary to switch this selector for playback.

After you finish recording and playback

❶ Push **EJECT Button** remove **VIDEO CASSETTE** from Cassette Holder and press this down until it locks in position.

Make a habit of rewinding the tape by pushing Rewind Button before "Eject". This will prevent the tape from being damaged.

- Do not press this button while the unit is in operation. Be sure to push Stop Button and wait for two or three seconds until the tape is retracted into the cassette before "Eject".
- It may sometimes be impossible to take out the tape at the leader tape position either at the end or beginning of the cassette. At times like these, set the tape to fast forward (when the leader tape is at the beginning) or rewind (when the leader tape is at the end) for a few seconds, depress Stop Button to stop the tape movement, and then take out the cassette by depressing Eject Button.

❷ Turn **RECORDER** and **TV OFF**.

- Do not leave a cassette in the unit when not in use.
- Do not leave the cassette holder in the upright position when the unit is not in use to minimize dust accumulation, etc.

To watch TV normally

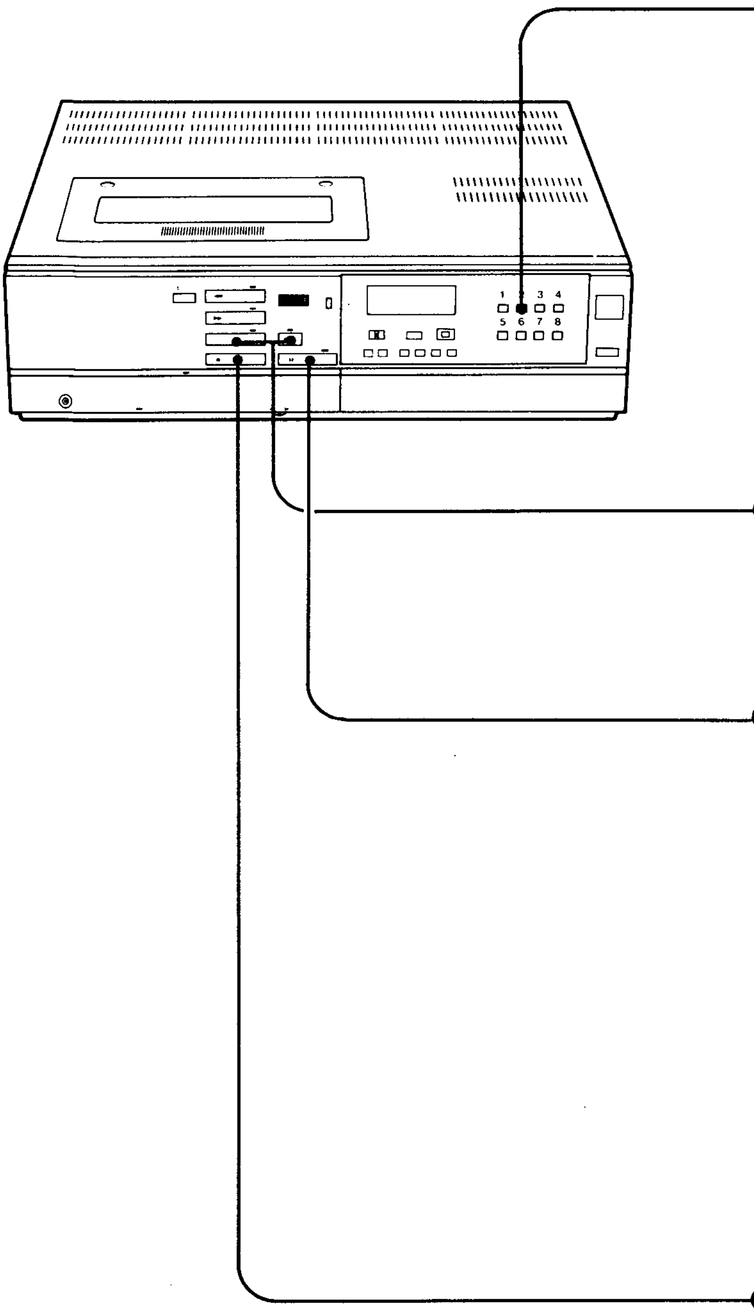
❶ Turn **RECORDER OFF**.

❷ Select a desired channel on TV.

Don't remove the AC power cord from the mains supply as it is necessary for the recorder to be plugged in to view TV programmes.

RECORDING

Prepare for recording as follows:
- Turn TV on and select the RF output channel.
- Turn the unit ON.
- Insert a cassette.
- Set Input Signal Selector to "TUNER".



① Select a channel to be recorded and confirm proper reception on TV.
Adjust fine tuning on the unit or your TV if necessary: when a channel does not provide satisfactory reception . . .
Check the picture quality of each channel by pushing the Channel Selector Buttons on the unit. If the picture is not satisfactory in any of channels, adjust RF output channel by fine tuning control on TV. If just one or two channels are unsatisfactory, adjust by turning Fine Tuning Controls on the unit.

② Push **RECORD Button** together with **PLAY Button** to start recording.
Your TV does not have to be on to make a recording because the unit will record a TV programme without the aid of your TV. Its use is for confirming reception or monitoring.

③ Push **PAUSE Button** to temporarily stop the tape if you wish to avoid recording unwanted material.
Push again to release the tape from pause.
Always use PAUSE Button to obtain proper recording continuity, but don't pause for more than 5 minutes. If the pause mode continues for more than 5 minutes, the unit will be automatically released from pause and stop in order to protect the tape and the video heads.

To obtain proper continuity when taping from the stop mode or when STOP Button has been pushed accidentally:
1. Play back the last part of the already recorded material in order to confirm its end point, and then push PAUSE Button.
2. Push RECORD Button together with PLAY Button. (The unit is still in the pause mode.)
3. Push PAUSE Button to start recording.
- When a camera is being used, release PAUSE Button or depress the camera's start/stop switch twice.

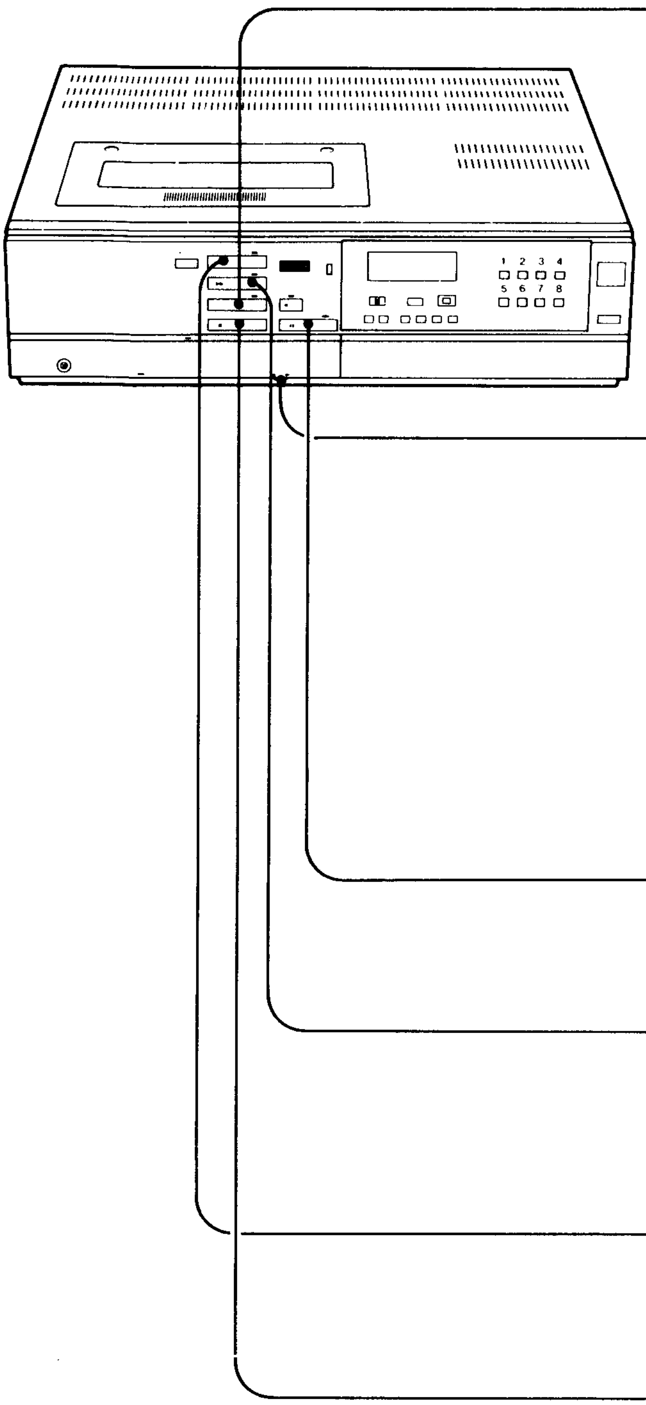
④ Push **STOP Button** to stop recording.

RECORDING ONE TV PROGRAMME WHILE WATCHING ANOTHER.
Select a desired channel on your TV when you wish to view another channel during recording.

PLAYBACK

Prepare for playback as follows:

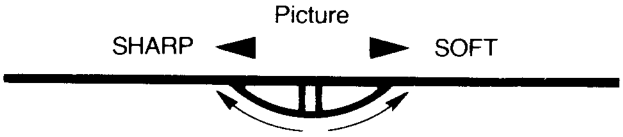
- Turn TV on and select the RF output channel.
- Turn the unit ON.
- Insert a cassette.



❶ Push **PLAY Button**.
Adjust **TRACKING Control** on the unit or fine-tune your TV if necessary. See page 1-3 ⑫.

● Control the picture as you like with the Picture sharpness control as below.

Picture sharpness control



The outlines of the picture are made sharper.

The outlines of the picture are made softer.

❷ Push **PAUSE Button** to view a paused picture.

❸ Push **PAUSE Button** again to release the tape from pause.

❹ Push **FAST FORWARD Button** to fast-forward wind the tape.
When this button is pressed during playback, the picture will be scanned at 5 times normal speed. Cueing will continue as long as the button is depressed.

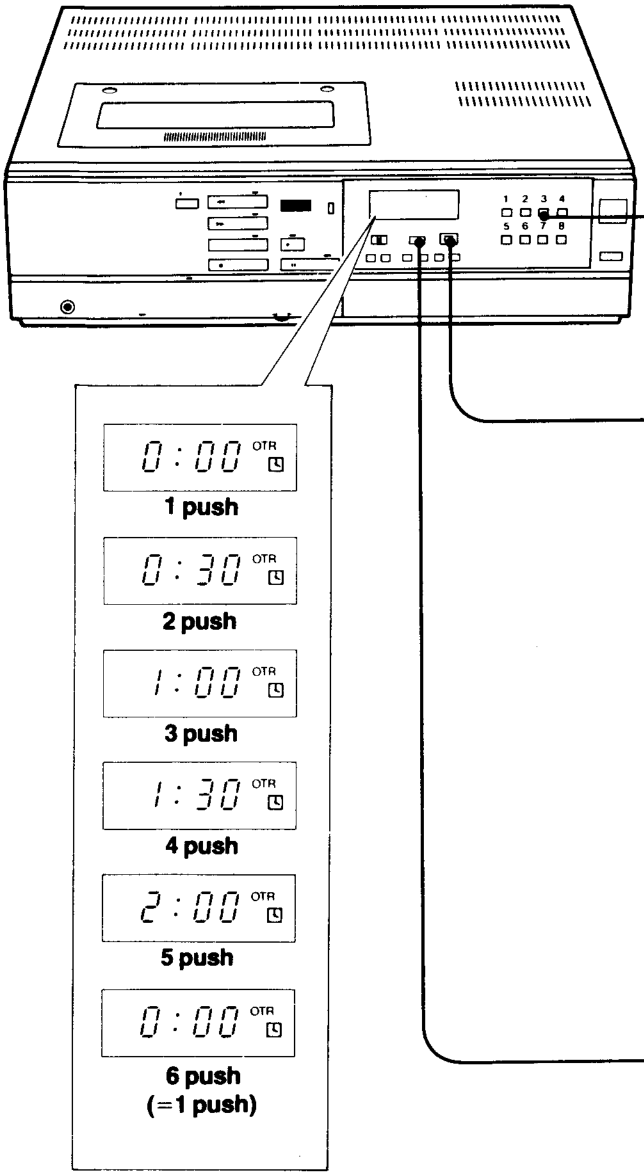
❺ Push **REWIND Button** to rewind the tape.
When this button is pressed during playback, the picture will be scanned in reverse at 5 times normal speed. The review playback will continue as long as the button is depressed.

❻ Push **STOP Button** to stop playback.

- Slight distortions can appear on TV during CUE/REVIEW and PAUSED playback, but this is normal.
- If you leave the unit in the pause mode for more than 6 minutes, it will automatically stop.
- Audio will not be heard during CUE/REVIEW and PAUSED playback.

ONE-TOUCH TIMER RECORDING (OTR)

The One-Touch Timer Recording (OTR) function automatically switches off the power when the recording is completed. This is very convenient when going out or going to sleep and when there is a program to be recorded. Just select the channel and push the OTR Button for 30 minutes to 2 hours of recordings.



Prepare for one-touch timer recording as follows:

- Turn the TV ON and select the RF output channel.
- Turn the unit ON.
- Insert a cassette. Make sure that the tab is in place.
- Set Input Signal Selector to "TUNER".

❶ Select the channel to be recorded and confirm proper reception on the TV.

❷ Keep the TV set's power switch at OFF when recording a program without watching it on the TV.

❸ Push One-Touch Timer Recording (OTR) Button.
When pushed once, the present time is erased from the Timer Display and "0:00" is displayed instead. The OTR and ⏲ mark comes on.

❹ Push **OTR Button** again to start recording and select the recording time.
Now all other function are in operable. Each time the OTR Button is pushed, the Timer Display will change as shown on the left.

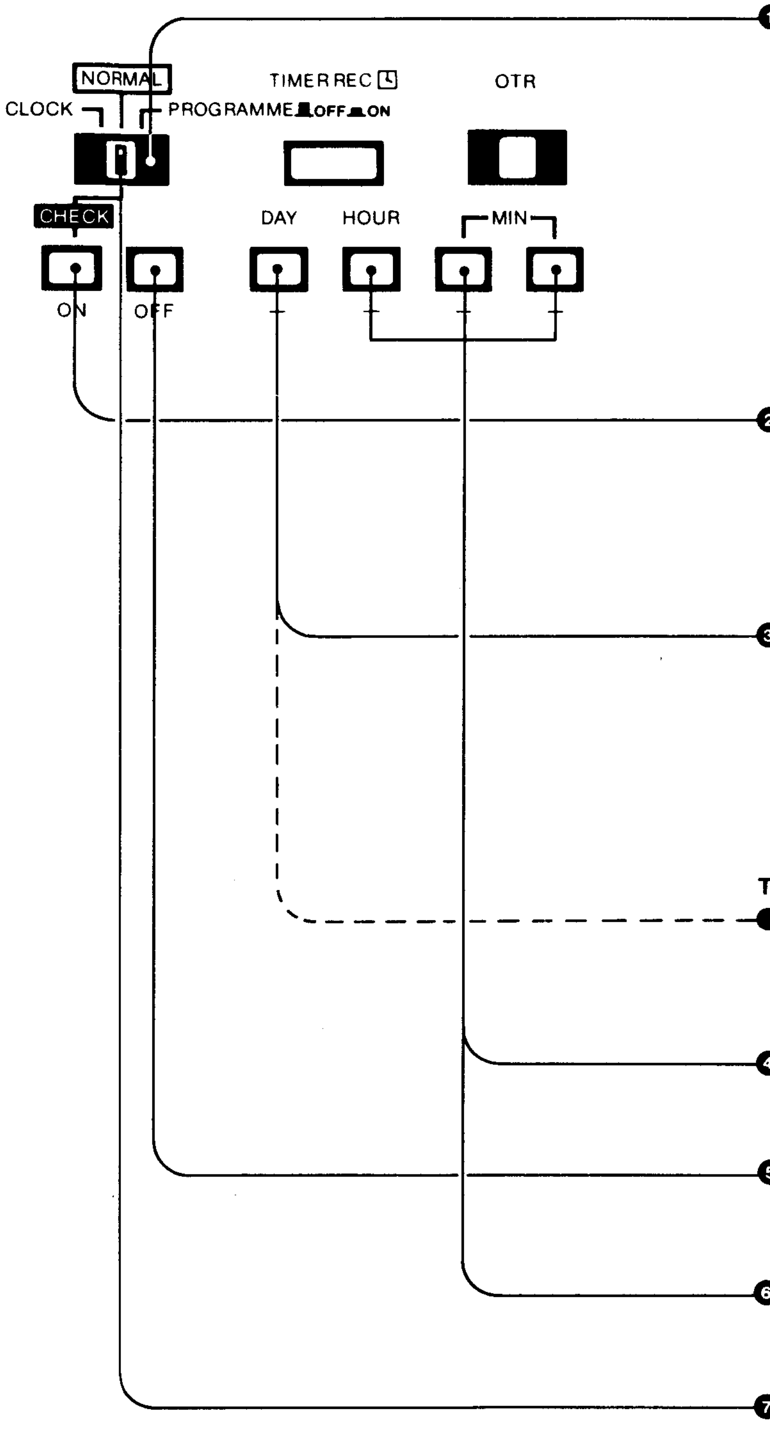
- The Timer Indication shows the recording time. During recording it will show the time remaining until "0:01".
- The OTR will take priority over the Timer Recording.
- To stop the One-Touch Timer Recording, turn the unit OFF.

❺ If you want to automatically turn the power OFF after One-Touch Timer Recording is completed, push the Timer Rec Switch ON. Then the power is turned OFF when the One-Touch Timer Recording is completed.
To resume the power, push the Timer Rec SwitchOFF.

- If the cassettes tab is missing, One-Touch Timer Recording will not function.
- Recording will be interrupted if there is a power failure during a One-Touch Timer Recording.
- If you wish to suspend the One-Touch Timer Recording, push the OTR Button repeatedly until the Timer Display returns to "0:00".
- If the tape ends during One-Touch Timer Recording the tape will not automatically be rewound.

TIMER RECORDING

To set the recording start/stop time
Make sure that
—the clock indicates the present time correctly,
—VTR Switch is ON.
—TIMER REC Switch is OFF.



❶ Switch **Mode Selector** to **"PROGRAMME"**.
The indication ON will flash on and off.

❷ Switch **ON/OFF Switch** to **ON**.
The indication "ON" will stay illuminated and the current DAY and TIME will also light up as well as the symbol " I " meaning the 1st week.

❸ Select a desired day for recording by pushing **DAY Button**.
If a day in 2nd week is selected, the symbol " II " will light up.

To record a programme at the same time every day

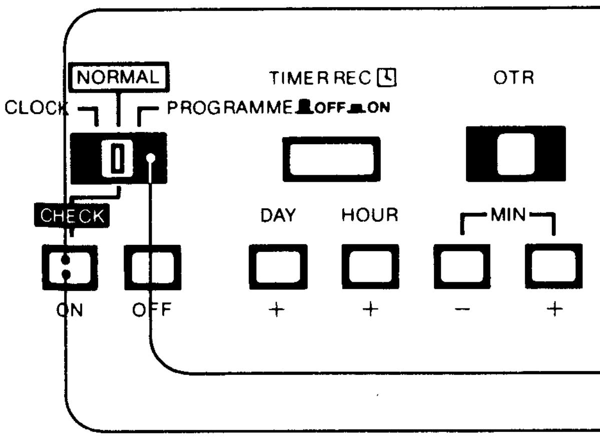
● Press **DAY Button** until the day indications pass 2nd week, and then all day indicators will light up.

❹ Set the **starting time** by HOUR, MIN Buttons.

❺ Switch **ON/OFF Switch** to **OFF**.

❻ Set the **stop time** by HOUR, MIN Buttons.

❼ Switch **Mode Selector** to **NORMAL**.
The present time will be displayed.



To check recording start/stop time
Make sure that
—Mode Selector is set to "NORMAL",
—VTR Switch is ON.

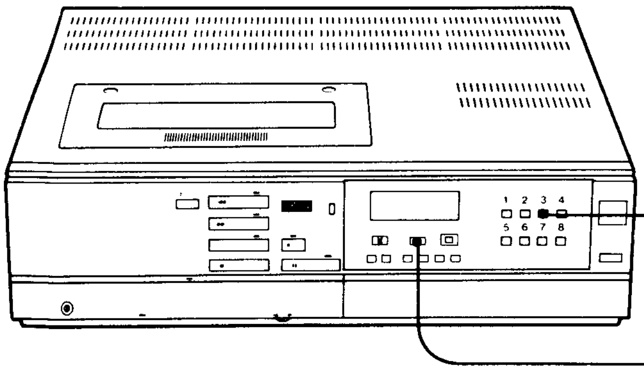
❶ Switch **ON/OFF Switch** to **ON**, and the preset starting time will be displayed for 4 seconds.
Next, the preset stop time will be displayed, and 4 seconds later, the clock will resume the normal clock operation.

To clear recording start/stop time
Make sure that
—VTR Switch is ON,
—TIMER REC Switch is OFF.

❶ Switch **Mode Selector** to **"PROGRAMME"**.

❷ Switch **ON/OFF Switch** to **ON**.
The present time will be displayed, but the recording start/stop time is cleared.
Or, if you wish to clear the preset time while setting the recording start time, switch ON/OFF switch to ON and OFF.

❸ Return Mode Selector to "NORMAL".



Prepare for timer recording as follows:
- Turn the unit on.
- Turn TV on and select the RF output channel.
- Insert a cassette.
- Set Input Signal Selector to "TUNER".

❶ Select a channel to be recorded and confirm the proper reception on TV.

❷ Turn **TV OFF**.

❸ Set **TIMER REC Switch ON**.
The ⏲ mark lights up and recording will start and stop automatically at the preset start/stop times. If the tape ends during the recording, the unit will stop and retract the tape into the cassette. Rewind, play or any other operation may be performed directly within the recording time with TIMER REC Switch at ON.
To stop the recording push TIMER REC Switch off.

- Normal operations cannot be performed when the TIMER REC switch is at the "ON" position. Except for Timer Recording, always keep this switch at the "OFF" position.
- If the cassette's tab is missing, ⏲ mark will flash and no recording will start.
- When the recording is finished, push TIMER REC Switch off.
- Do not push another channel selector button during recording.
- If there is a power failure for more than 0.5 second before or during timer recording, the recording will not be performed or continued even if power resumes thereafter.
- Every-day recording will continue over the full-length of a cassette for as long as TIMER REC switch is on.
- If the tape ends during Timer Recording, the tape will not automatically be rewound.

Panasonic
MATSUSHITA ELECTRIC

Printed in Japan

ORDER NO. VRD-8204-080

Service Manual

Video Cassette Recorder

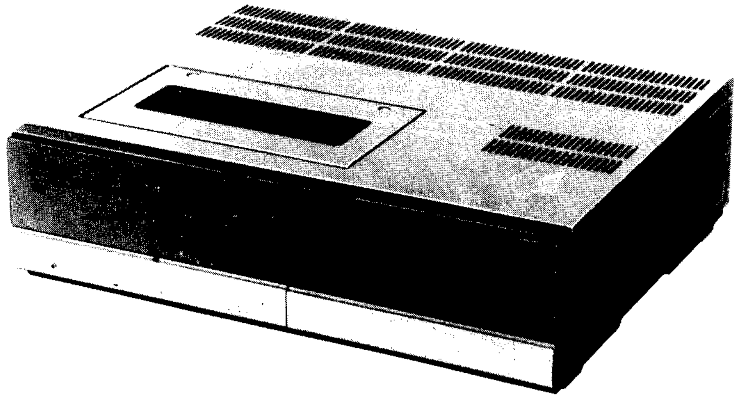
Panasonic VHS

NV-333 -E -EG -B -EO

Vol. 2

Mechanical Adjustment Procedures

Electrical Adjustment Procedures



SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-333-E, EG, EO)
240V AC 50/60Hz (NV-333B)
Power Consumption: Approx. 36 watts (NV-333-E, EG, EO)
Approx. 39 watts (NV-333-B)
Television System: CCIR: 625 lines, 50 fields
PAL colour signal (NV-333-E/-B/-EO)
CCIR: 625 lines, 50 fields
PAL/DDR SECAM colour signal
(NV-333-EG,)
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier phase shift recording
Audio Track: 1 track
Tape Format: Tape width 12.7mm high density tape
Tape Speed: 23.39mm/s
Record/Playback Time: 240 min. with NV-E240
FF/REW Time: Less than 6.5 min. with NV-E240
Heads: Video: 2 rotary heads
Audio/Control: 1 stationary head
Erase: 1 full track erase
Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminate
Audio: LINE IN jack
More than −20dB, more than 50kΩ

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminate
Audio: LINE OUT jack
−6dB, less than 1kΩ
RF Modulated: UHF channel 36 ± 4CH
75Ω terminate
Weight: 8.4kg
Dimensions: 430(W) x 125(H) x 358(D) mm
Accessory Supplied: 1 pc. DIN-RF Cable VJA0176
1 pc. Video Cassette Tape
NV-E30 (NV-333-E/EG/E0)
1 pc. Video Cassette Tape
NV-E60 (NV-333-B)

Optional Accessories: Video cassette tape:
NV-E240 Approx. 344m, 240min.
NV-E180 Approx. 258m, 180min.
NV-E120 Approx. 174m, 120min.
NV-E60 Approx. 88m, 60min.
Video Camera, WV-2600E,
WV-3000E, WV-3200E
Remote Control Unit, NV-A33E

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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MECHANICAL ADJUSTMENT PROCEDURES

DISASSEMBLY OF CABINET PARTS

1. Disassembly Flowchart

This flowchart indicates disassembly steps of the cabinet parts and the PC Boards in order to find the item(s) necessary for servicing.
When reassembling, perform the step(s) in the reverse order.

Notes: 1. When removing the Front Panel, work with care not for breaking the locking portion of the panel.
2. The adjustment is required when the Cassette Guide was replaced.

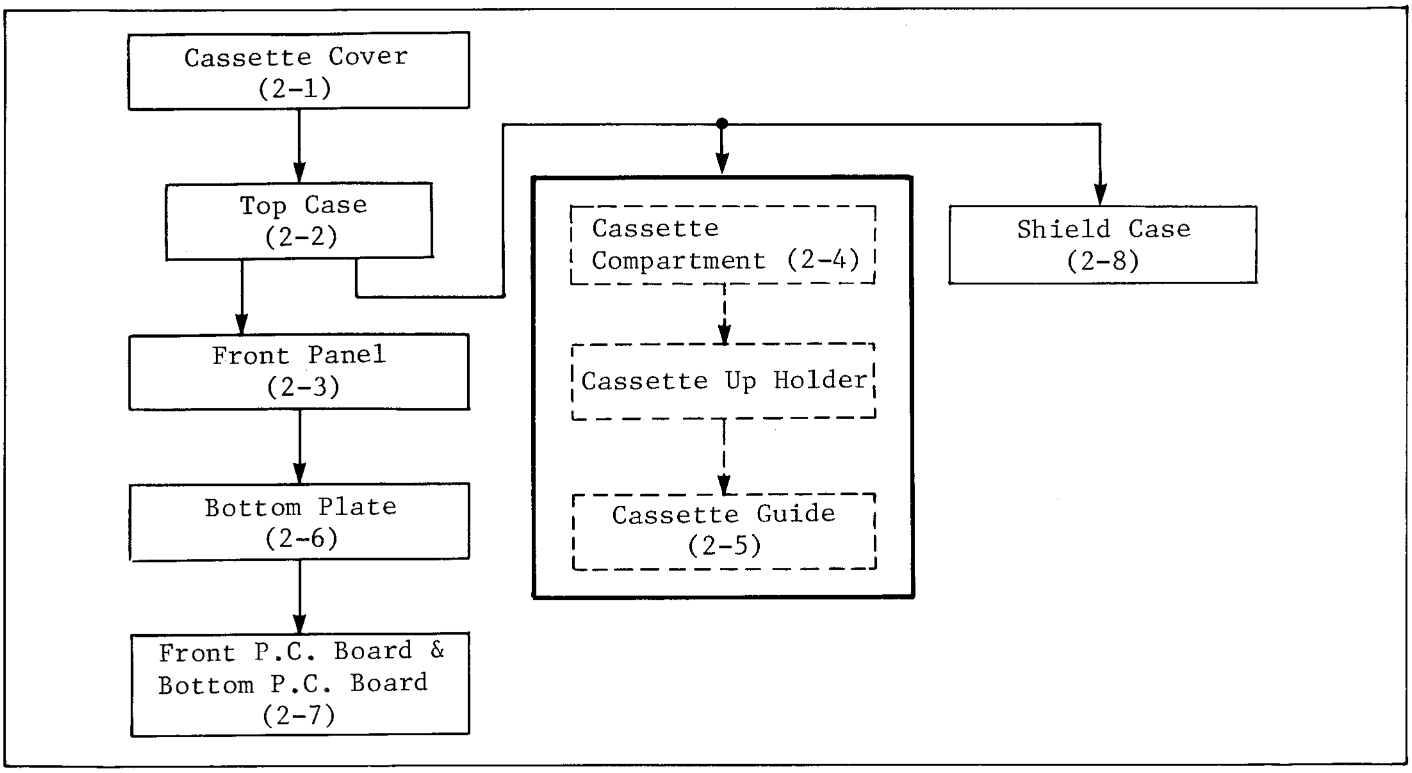

Cassette Cover (2-1)
Top Case (2-2)
Front Panel (2-3)
Bottom Plate (2-6)
Front P.C. Board & Bottom P.C. Board (2-7)
Cassette Compartment (2-4)
Cassette Up Holder
Cassette Guide (2-5)
Shield Case (2-8)

Fig. M1

2. Detailed Disassembly Method

2-1. Removal of the Cassette Cover
Remove 2 screws (A). Then lift the cassette cover.

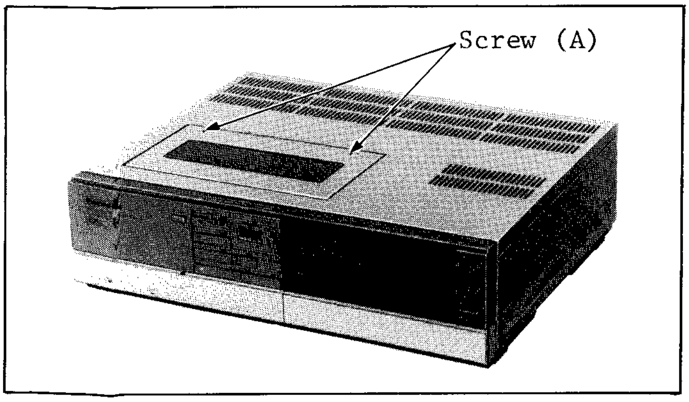


Fig. M2

2-2. Removal of the Top Case
Remove 3 screws (B). Then carefully lift the rear portion and pull it toward the rear of deck to remove.

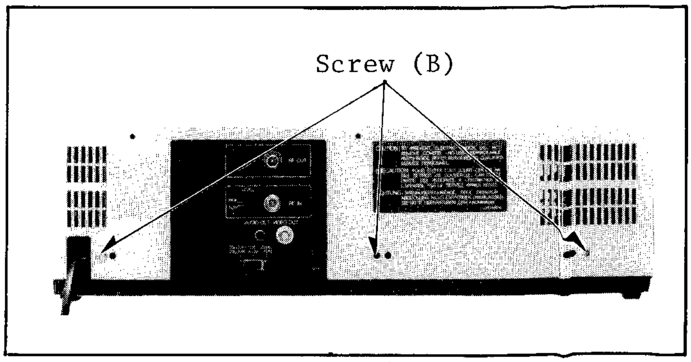


Fig. M3

2-3. Removal of Front Panel
Carefully unlock 6 Locking Tabs located on the lower and upper Front Panel. Then pull the Panel toward the front of the deck to remove it.

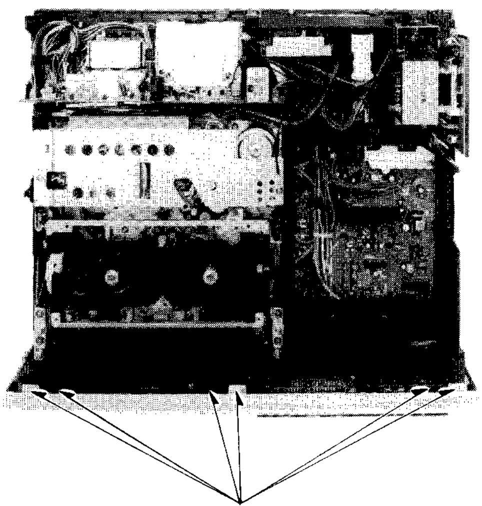


Fig. M4

2-4. Removal of the Cassette Compartment
Since the adjustment is not required when reinstalling the cassette compartment unless the screw located on center was loosened or removed, remove the entire cassette compartment for servicing or adjustments of parts under it.
Remove 4 screws (D) on each side and remove the Cassette Compartment (Cassette Up Holder and Cassette Guide).

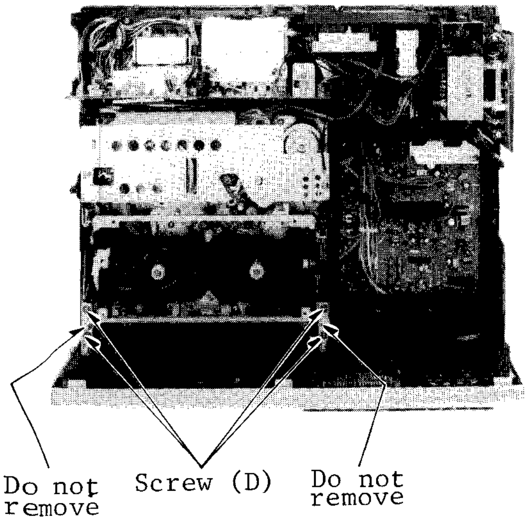


Fig. M5

Note: Do not remove screws paint locked. (located on center)

2-5. Removal of the Cassette Guide
In case only the cassette guide requires replacement or removal, remove a screw (E) on each side.

Note: When reinstalling, insert the cassette tape and ensure the clearance between tape and projections on the cassette guide is more than 1 mm.

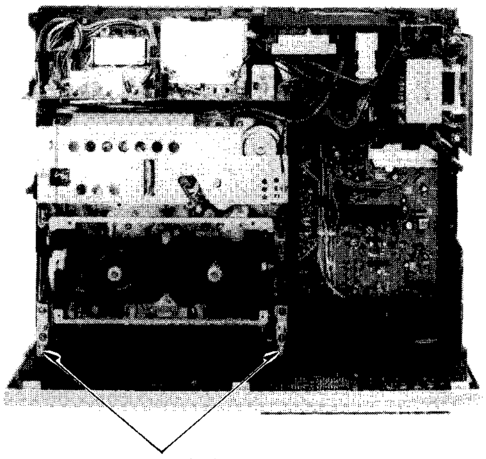


Fig. M6

2-6. Removal of the Bottom Plate
Place the deck up side down so that the bottom side faces upward. Then remove the 6 screws (F) to remove the Bottom Plate.

Note: Place the cushion under the deck for not being damaged the top portion of the deck.

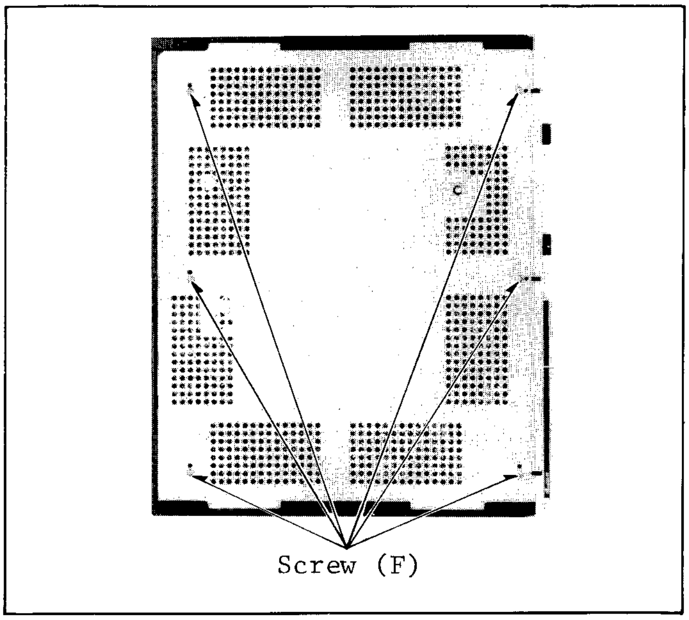


Fig. M7

2-7. Opening of the Front P.C. Board and the Bottom P.C. Board

1. Carefully unlock 4 Locking Tabs, then slightly lift the Front P.C. Board to open it.

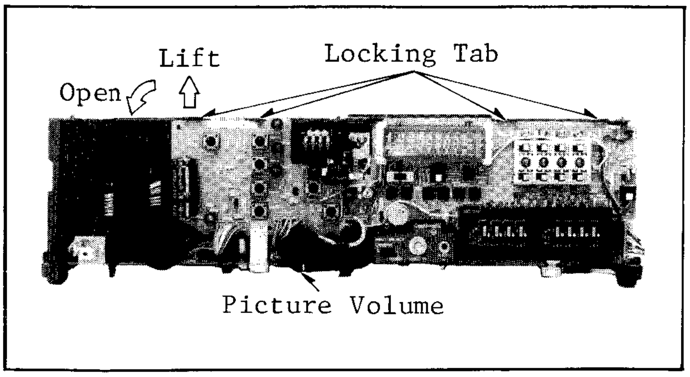

Lift
Open
Locking Tab
Picture Volume

Fig. M8

Note: Before opening the P.C. Board, remove the Picture Volume.

2. Place the deck up side down so that the bottom side faces upward, and remove 5 screws (G).
3. Unlock 4 Locking Tabs, then lift the Bottom P.C. Board with the Front P.C. Board to open it.

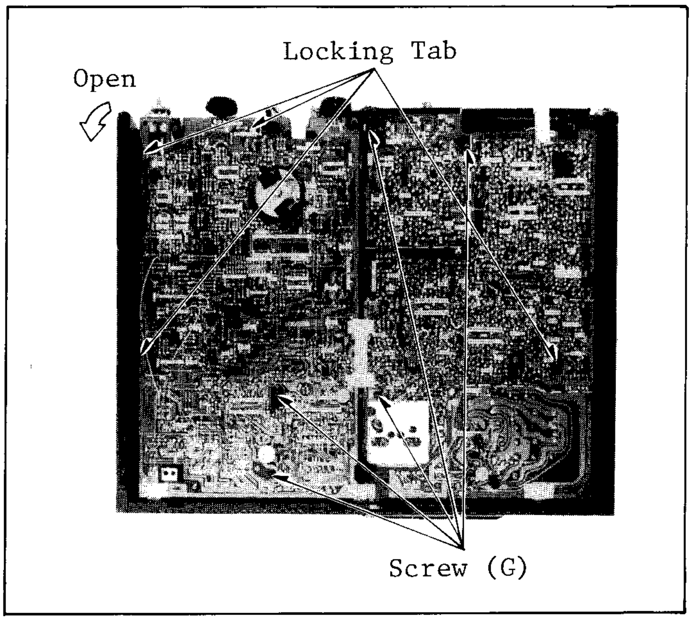

Locking Tab
Open
Screw (G)

Fig. M9

2-8. Removal of the Shield Case

Remove 2 screws (H). Lift it up to remove.

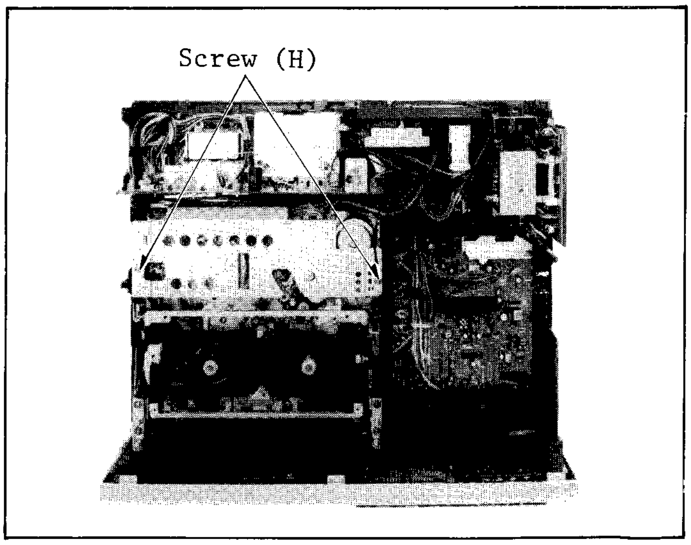


Fig. M10

ADJUSTMENT PROCEDURES

1. Position Adjustment of Cassette Guide Pin

This adjustment is required only when the cassette guide pin was replaced or it's mounting screw was loosened.

Equipment Required:
Capstan Reference Plate ... (VFK0141)

1. Remove the Cassette Cover, Top Case, Cassette Up Holder and the Shield Case. (Refer to "Disassembly Method" section.)
2. Move the Pressure Roller back with your finger and slightly loosen a screw (A).

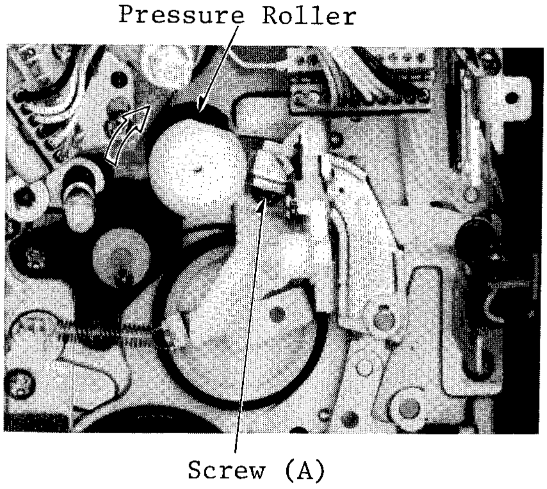


Fig. M11

Place the Capstan Reference Plate (VFK0141), set the cassette guide pin into the hole of the plate.

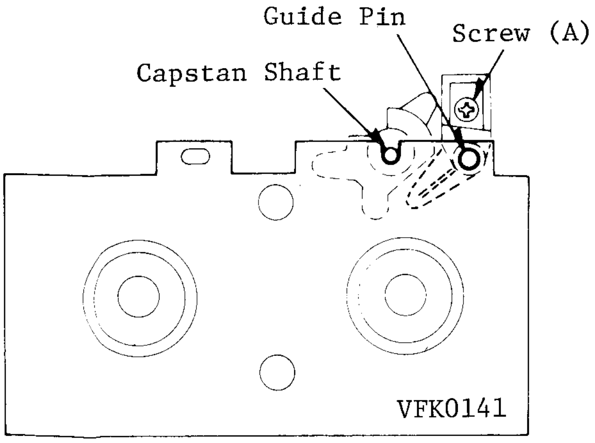


Fig. M12 Adjustment of Guide Pin

Move the fixture so the capstan shaft fits snungly in the notch of the fixture and tighten the screw (C).

2. Confirmation of Pressing Force of Pressure Roller

Equipment Required:
Fan-Type Tension Gauge (VFK66)

1. Playback the cassette tape.
2. Set Fan-Type Tension Gauge to the part (A) of Main Pressure Arm Unit.
3. Press the Arm with the Gauge, in the direction indicated by the arrow as shown below.

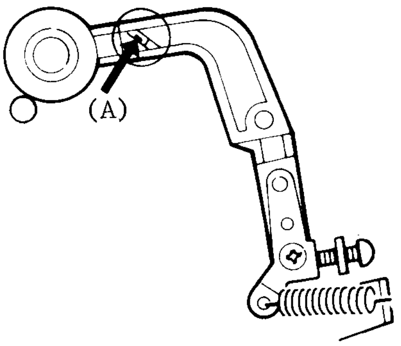


Fig. M13

4. Confirm that reading of the Tension Gauge is 1,600 ± 350 g at the moment of tape stop.

3. Confirmation of Tape Speed

Equipment Required:
Frequency Counter
VHS Alignment Tape ... VFM8100H3D
Specification: 600 ± 1.5Hz

1. Remove the Bottom Case, Top Case and the Front Panel.
2. Connect the frequency counter to pin 5 of connector BJ6001 on the Servo Section.
3. Playback the monoscope portion of the alignment tape and wait until tape movement is well stabilized.

4. Read the frequency counter and confirm it is within the specification.
5. If it is out of spec., replace the capstan belt. Three types of capstan belts are available for the replacement as follows.

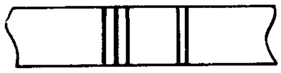
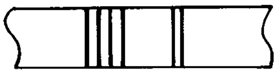
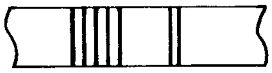
Part No.	Marking	Speed Range
VDV0121A		Slow
VDV0121B		Center
VDV0121C		Fast

Fig. M14 Replace the Capstan Belt

6. When to replace the Capstan Belt, first remove 2 screws (A) and Thrust Holder.
Then change the capstan belt to obtain the correct speed. (VDV0121A, VDV0121B, VDV0121C)

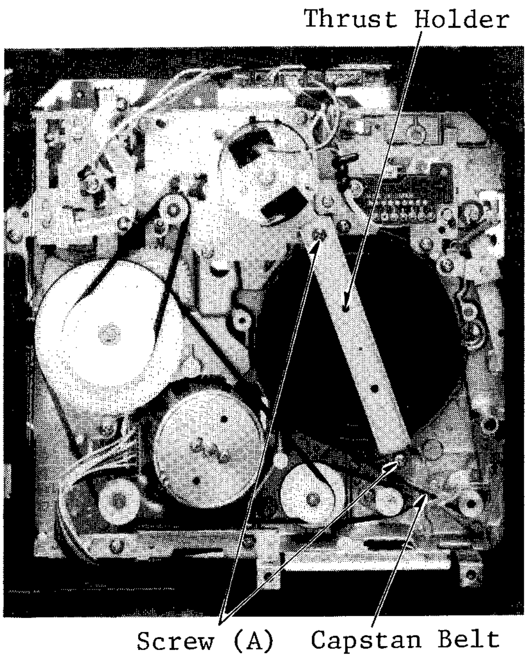


Fig. M15

Notes:
1. Do not put any oil or grease on the belts or pulleys.
2. When installing the capstan belt, make sure that the marked side comes outside.

4. Replacement of Upper Cylinder Unit

Work with extreme care when removing or replacing the upper cylinder unit. Do not touch video heads during servicing.

1. Remove Cassette Cover, Top Case and Shield Case. Refer to "Disassembly Method" section.
2. Remove the screw (A) and Discharge Brush Unit. And unsolder the 4 lead wires which are color coded to match lead wires on the head relay board.
3. Remove the 2 screws (B) and gently lift the upper cylinder unit from the shaft.
4. Before reinstalling a new one, clean the DD cylinder shaft and surface engaged with it on the upper cylinder with soft cloth dampened with freon liquid.
5. Reinstall the new one so that the colour code of 4 lead wires match the lead wires on the head relay board and tighten the 2 screws (B).
6. Resolder the 4 leads to head relay board and reinstall the Discharge Brush Unit.

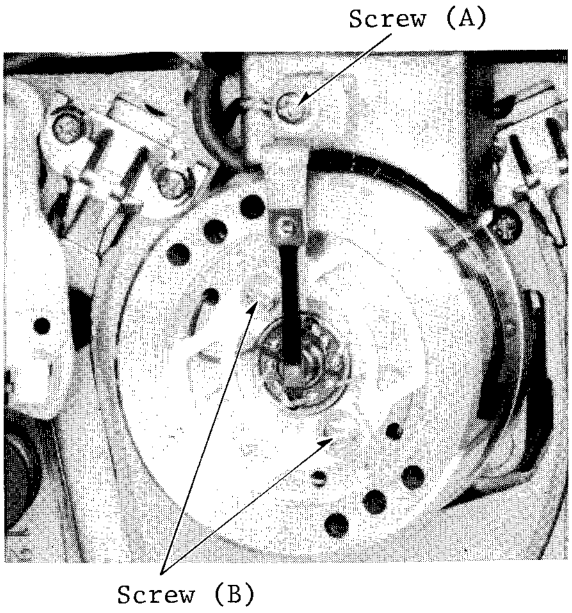


Fig. M16 Removal of Upper Cylinder

Note:
Upon completion of replacement, confirm the performance. And if any further maintenance is required, refer to the "Tape Interchangeability Adjustment" section and perform the necessary items.

5. Replacement of DD Cylinder Unit

Work with extreme care when removing or replacing the DD cylinder unit. Do not touch video heads during servicing.

1. Remove the Bottom Plate, Cassette Cover, Top Case, Front Panel and Shield Case. Then open the Bottom P.C. Board. Refer to "Disassembly Method" section.
2. Disconnect 2 connectors (P001 and P002) and remove the DD cylinder unit by removing 3 screws (A). Since there is very little clearance between DD cylinder and chassis, remove the cylinder gently and carefully.
   The P001 is connected to the Servo Section and the P002 is connected to the Video Section.

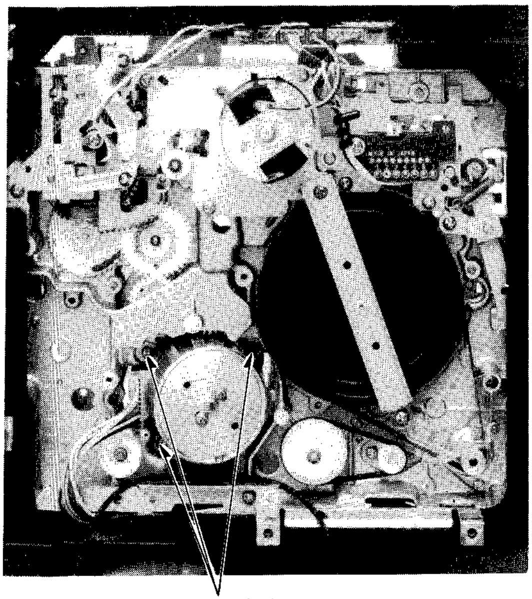


Fig. M17 Removal of DD Cylinder

For P002, first remove the shield case and disconnect the P002.

Note:
Pay particular attention to how these wires are routed along the chassis so that proper lead dress can be restored when the DD cylinder is reinstalled.

3. Remove the upper cylinder unit from the DD cylinder and reinstall it on new one. To perform this step, refer to "REPLACEMENT OF UPPER CYLINDER UNIT" section.
4. Reinstall the new DD cylinder unit to the chassis and restore the leads, connect the P001 and P002, and recover the shield case.

Note:
Upon completion of replacement, confirm the performance. And if any further maintenance is required, refer to the "Tape Interchangeability Adjustment" section and perform the necessary items.

6. Adjustment of Safety Switch

* Specification
When the cassette tape with tab is used, switch turns on and without tab switch is kept off.

* Equipment Required:
Cassette Holder Fixture (VFK0188)

1. Remove the Cassette Compartment.
2. Place the fixture and slightly loosen the screw (A).
3. Turn the switch base counterclockwise and then slowly turn it clockwise until the switch turns on (it clicks). Then tighten the screw (A).

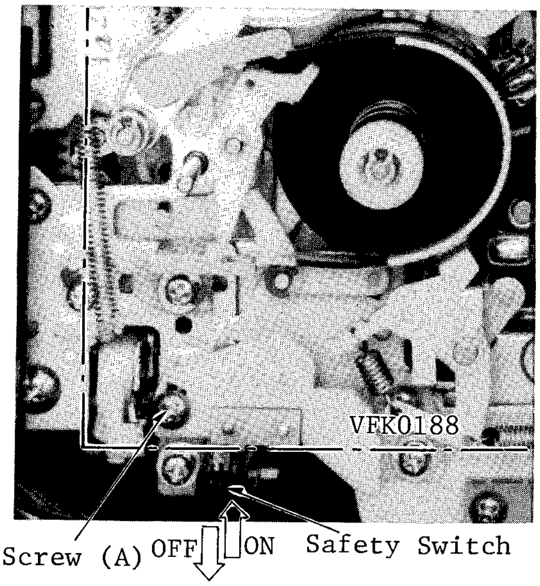


Fig. M18

4. After the adjustment, confirm that the switch turns on by using tape with tab and off without tab.

Note:
The alignment tape can be used for the confirmation by covering the broken tab.
After the confirmation, ensure the cover is removed.

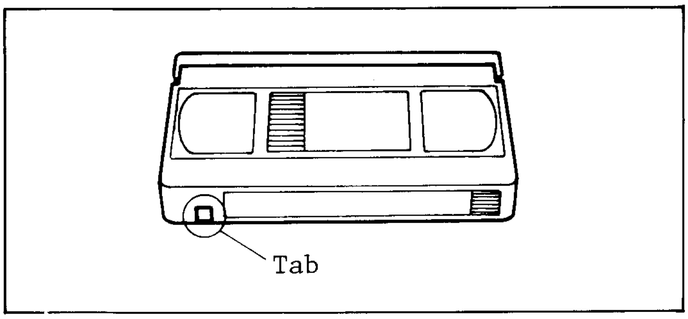


Fig. M19

7. Position Adjustment of Tension Post

* Equipment Required:
Tension Post Adjustment Plate .... (VFK0187)
Fine Adjustment Screwdriver .... (VFK0136)

1. Remove the top case and cassette compartment.
2. Blind the supply photo transistor and the take up photo transistor with opaque paper and press the cassette lock lever down to simulate the condition cassette tape is lowered.

3. Turn power switch on and push the play button for loading. As soon as the loading is completed, take out the AC plug.
4. Place the adjustment plate and slightly loosen a screw securing the tension band braket.
5. Insert the fine adjustment screwdriver into the hole and move the tension band bracket in either of direction so the tension post just touches the fixture.

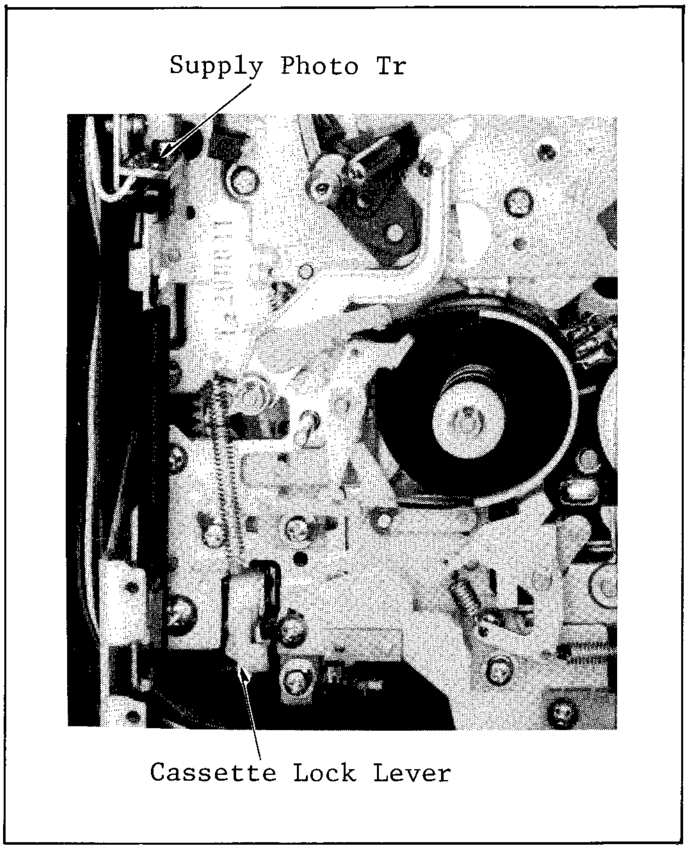


Fig. M20

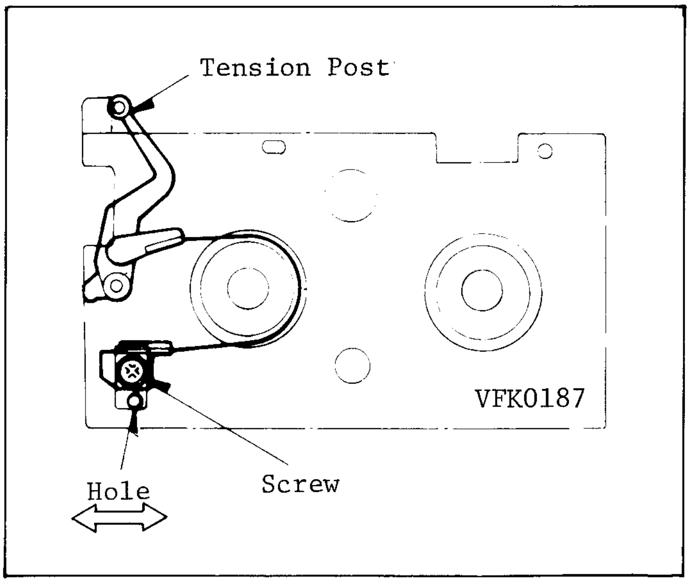


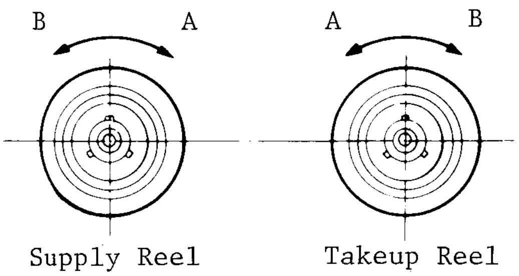
Fig. M21 Adjustment of Tension Post

6. After above the adjustment is completed, ensure the cassette lock lever is unlatched before reinstalling the cassette compartment.

8. Confirmation/Adjustment of Brake Torque

A. Confirmation Procedure
Equipment Required:
Torque Gauge ..... (VFK0133)
Adaptor for Gauge ... (VFK0134)

Spec.



	A	B
Takeup	450 ∿ 800 g-cm	70 ∿ 150 g-cm
Supply		

Fig. M22 Spec. of Brake Torque

1. Remove the cassette cover, the top case and the cassette compartment.
2. Attach the adaptor to the torque gauge and place the deck in STOP mode.
3. Place the torque gauge on the reel table.
   The weight of gauge should be free against the reel table.

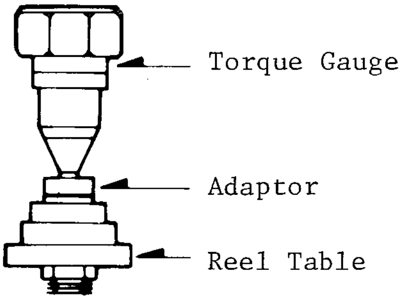


Fig. M23 Measuring Method

4. Turn torque gauge in the direction indicated in the Fig. M17 until the brake begins slipping.

B. Adjustment Procedure
To adjust the brake torque, change the notch.

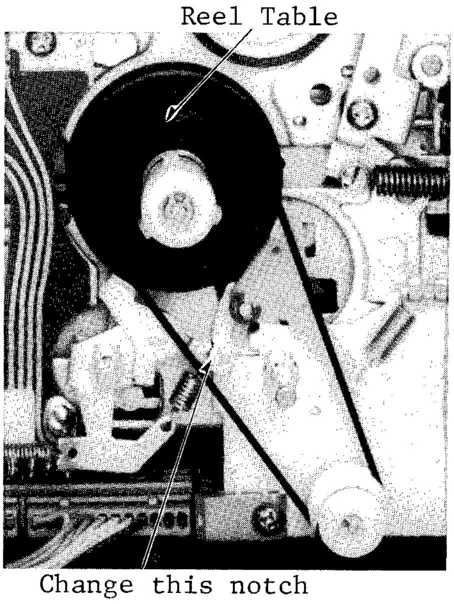


Fig. M24

Note:
If proper brake torque could not obtained by changing the spring position, clean the rotating surface of the reel table with soft cloth and confirm torque before replace it.

9. Confirmation of Takeup Torque

* Equipment Required:
Dial Torque Gauge ... (VFK0133)
Adaptor for Gauge ... (VFK0134)
* Specification
in PLAY mode ... 130 ∿ 180 g-cm
in F.F. .... more than 400 g-cm
in REW .... more than 400 g-cm

1. Remove the top case and cassette cover.
2. Attach the adaptor to the torque gauge and blind the takeup and supply photo transistors with opaque paper.
   Lower the cassette up unit and turn power switch on.
3. Set a torque gauge to the Take-up Reel Table, push the play button and read torque on gauge. Also perform for F.F. mode by pushing the F.F. button.

Note:
While measuring, the weight of gauge should not rest on reel table.

4. Set the torque gauge to the Supply Reel Table, press the rewind button for rewind mode. And read the torque on gauge.
5. Remove the opaque paper.

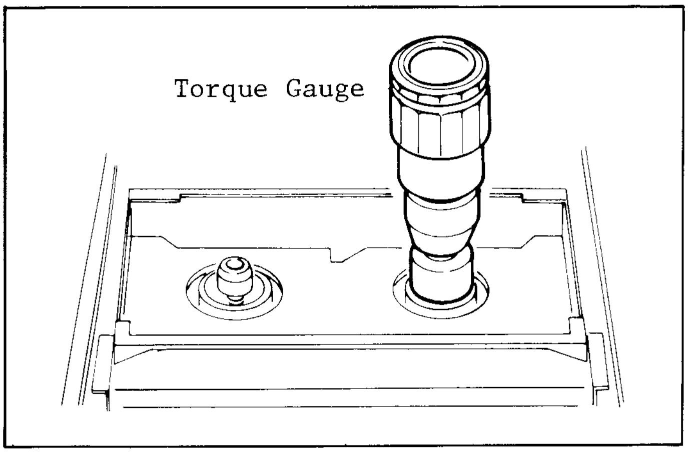


Fig. M25 Measuring Method

Note:
There are no-adjustment here.
If the torque readings are off considerably, rollers or idlers or reel tables may need replacement.

10. Measurement and Adjustment of Back Tension

A. Measurement Procedure
* Equipment Required:
Back Tension Meter (Tentelometer)
VHS Cassette Tape (120 minutes tape)
* Specification: 25 ∿ 30 g

1. Pull the erase head in the direction indicated by the arrow and hold it by adhesive tape.
2. Play back the cassette tape from its beginning and wait until tape running has stabilized. (for approx. 10 to 20 seconds)
3. Insert tension meter in tape path and confirm reading.

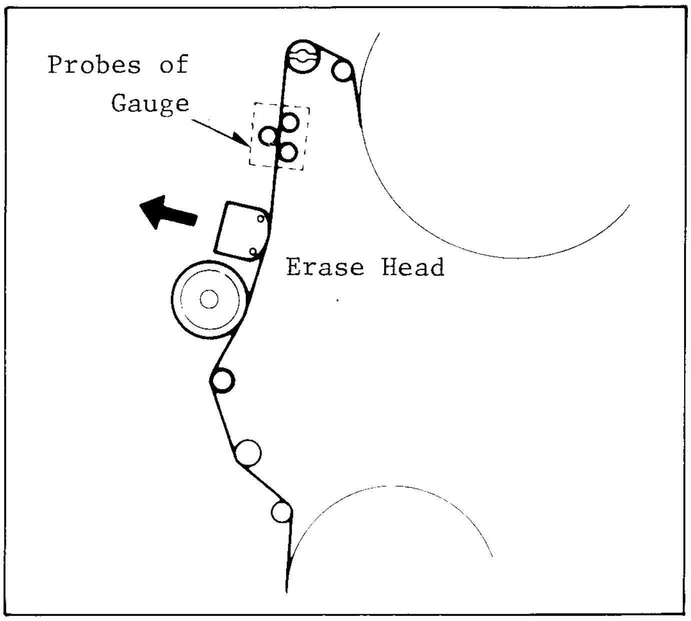


Fig. M26 Measurement of Back Tension

Notes:
1. Make sure that the three probes of the meter are all in good contact with tape, but out of contact with supply inertia roller while measuring.
2. It is recommended to be measured three times as tension meter is very sensitive.

(Adjustment Procedure of this section described on next page.)

B. Adjustment Procedure

* Equipment Required:
Fine Adjustment Screwdriver .... (VFK0136)

1. Loosen a screw (A) and insert the fine adjustment screwdriver into the hole (B).
2. Move the adjustment plate in either of direction indicated by the arrow to obtain the specified tension. Turn the driver clockwise to raise tension, counterclockwise to lower it.
3. Tighten the screw (A) and verify the tension with the meter once again.

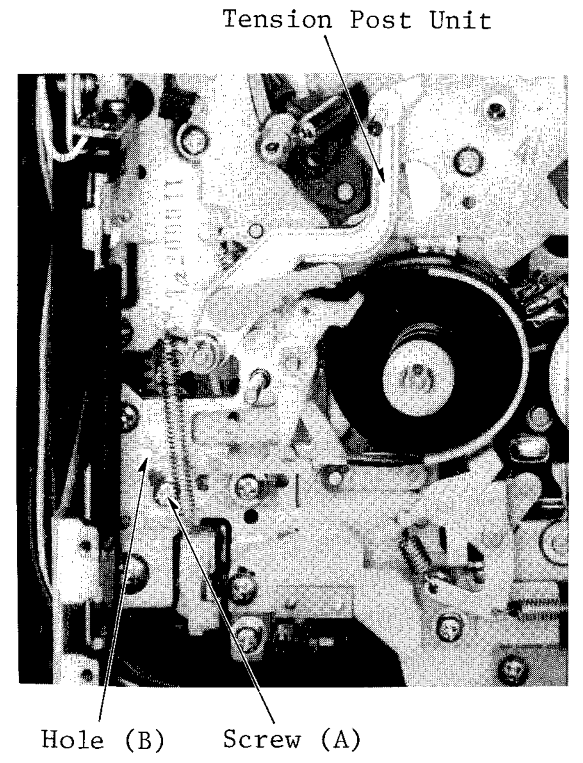


Fig. M27

4. After above the adjustment is completed, remove the adhesive tape.

11. Height Adjustment of Reel Tables

* Equipment Required:
Post Adjustment Plate .. (VFK0191)
Reel Table Height Fixture .... (VFK0190)
* Specification .... 0 ∿ 0.2mm

1. Remove the Cassette Compartment.
2. Place the post adjustment plate, put the dial gauge on it and set the dial gauge to zero "0" with the condition that scraper of gauge touches the cut-out portion of the plate.

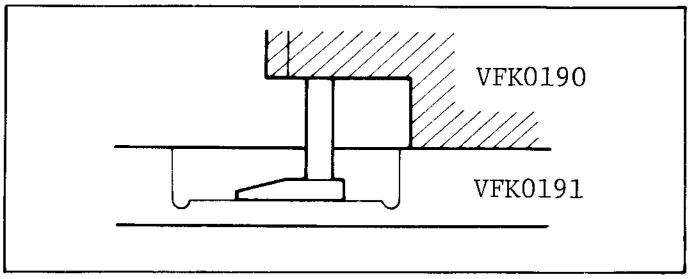


Fig. M28 Adjustment of Reel Table Height-(1)

3. Then measure the top portion of reel table and confirm the difference against the condition just performed in the former step. Also perform the same measurement and confirmation for other reel table.

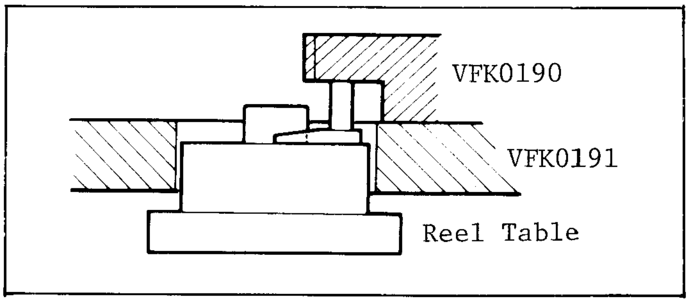


Fig. M29 Adjustment of Reel Table Height-(2)

4. If the difference is more than 0.1mm (high or lower), adjust the height of reel table to obtain the specified height.
5. For the adjustment, change the polyslider washer located under the reel table. The washers of following thicknesses are available.

Washer Thickness	Part No.
0.13mm	XWXV3Z6
0.25mm	XWXV3A6
0.5mm	XWXV3D6

Fig. M30

12. Height Adjustment of Tape Guide Post

* Equipment Required:

Hex. Wrench, (0.9mm) ...	(VFK0146)
Post Adjustment Plate ..	(VFK0191)
Reel Table Height Fixture	(VFK0190)
Nut Driver	(Purchase locally)
Post Adjustment Screwdriver	(VFK0137)

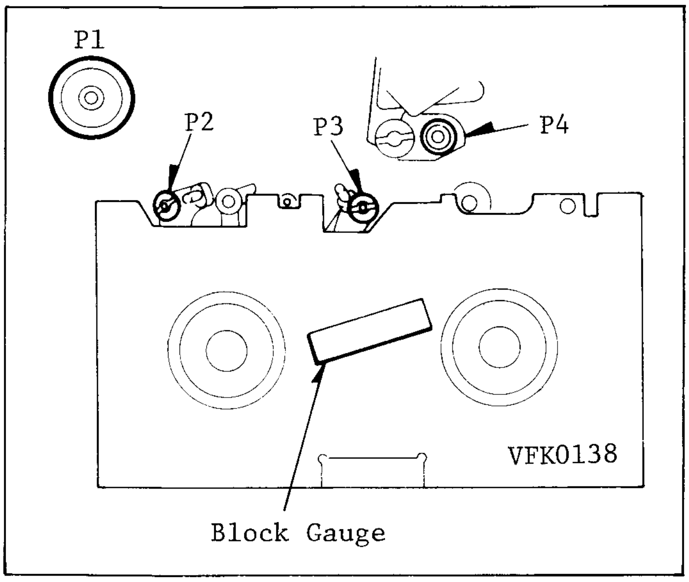


Fig. M31 Location of Posts

1. Place the post adjustment plate on the 4 cassette support pins correctly and put the block gauge on it. And fit the block gauge against each post for confirmation that the post is positioned lower or higher against the adjustment plate.
2. Loosen the locking hex. screws of posts (P2 & P3), then rotate the top of post counterclockwise with post adjustment screwdriver to raise them as the condition (C) shown below.
3. Then slightly press the block gauge against the post sleeve and rotate the top of the post clockwise with post adjustment screwdriver until to obtain the condition (A) shown below.

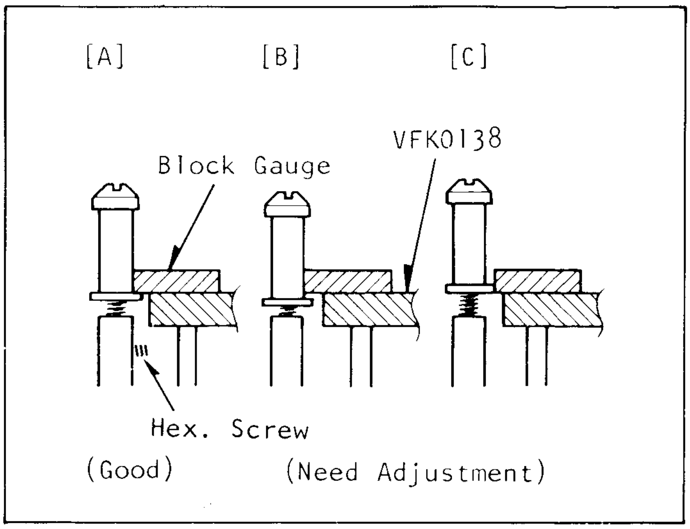


Fig. M32 Height Adjustment

4. Make the same adjustment for posts (P1 & P4) with nut driver. (Remove the post cap for P4 by turning it counterclockwise).

Note:
When the post cap is reinstalled, the direction of it should be as shown below viewing from the direction indicated by the allow.

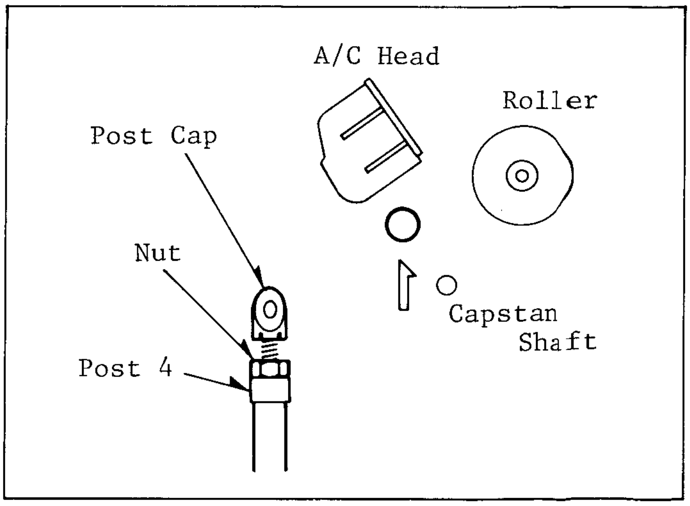


Fig. M33 Installation of Post Cap

After above the adjustment is completed, tighten hex. screws on the P2 and P3.

13. Confirmation of Envelope Output

* Equipment Required
Alignment Tape ..... (VFM8100H3D)
Post Adjustment
Screwdriver .... (VFK0137)

1. Set the tracking control into the detent (fixed) position.
   And connect the oscilloscope to the TP3012.

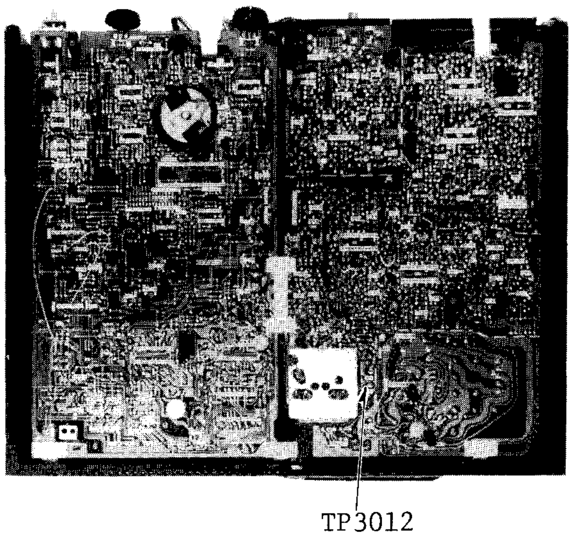


Fig. M34

2. Play back the monoscope portion of the alignment tape VFM8100H3D, adjust posts P2 and P3 by watching the scope display (Envelope of TP3012 on Main PC Board) so the RF envelope on the scope becomes as flat as possible.
   ($V1/V\text{-max.} \geqq 0.7$, $V2/V\text{-max.} \geqq 0.8$)

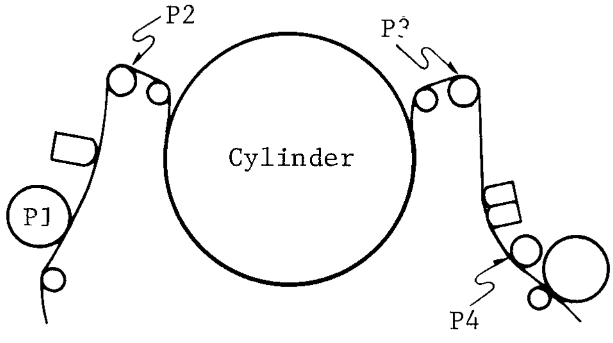

P2
P3
Cylinder
PJ
P4

Fig. M35

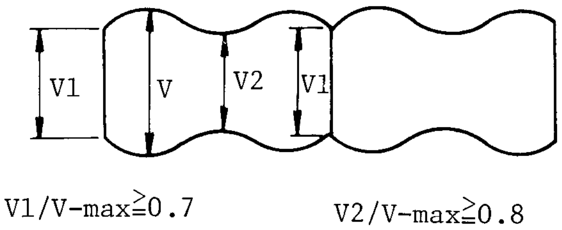

V1
V
V2
V1
V1/V-max≧0.7
V2/V-max≧0.8

Fig. M36

3. When the scope display is as follows, adjust the height of P2 as shown below.

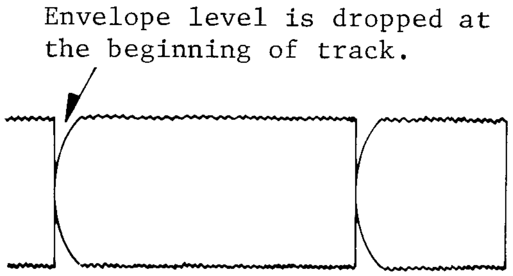

Envelope level is dropped at the beginning of track.

Fig. M37-(a)

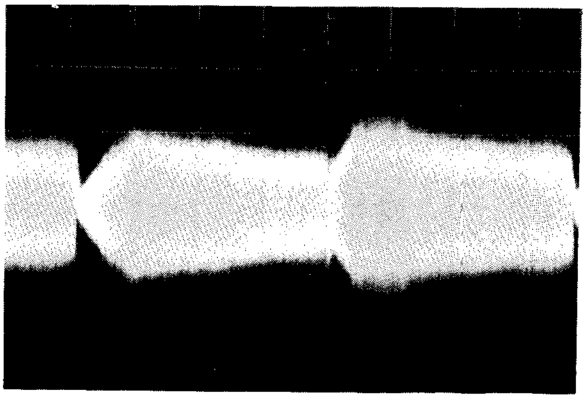


Fig. M37-(b)

4. When the scope display is as follows, adjust the height of P3 shown below.

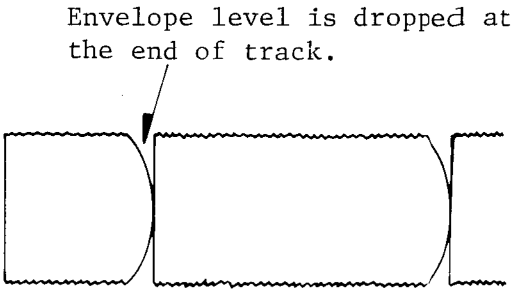

Envelope level is dropped at the end of track.

Fig. M38-(a)

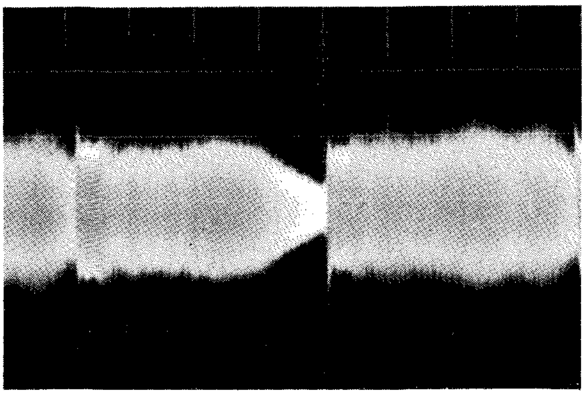


Fig. M38-(b)

5. The scope display with P2 and P3 adjusted correctly should become as shown below.

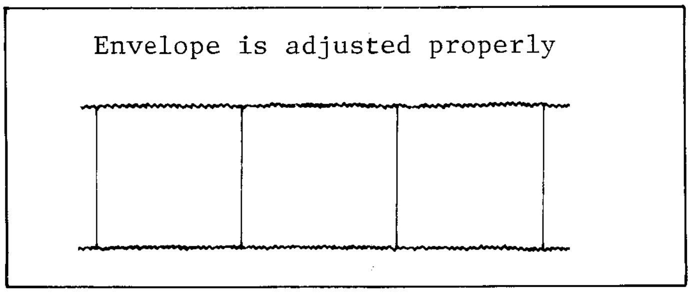


Fig. M39-(a)

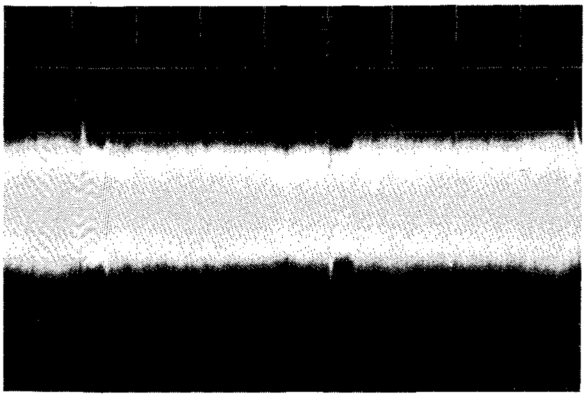


Fig. M39-(b)

6. When the adjustment is required, turn the top of post with the post adjustment screwdriver.

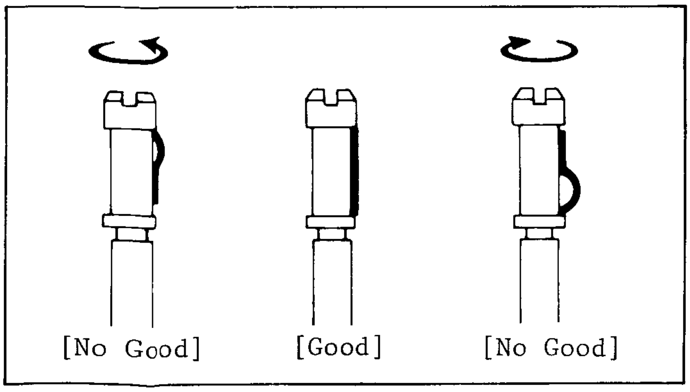


Fig. M40

14. Adjustments and Confirmations of A/C Head

14-1. Horizontal Position Adjustment of A/C Head

* Equipment Required:
H-Position Adjustment Screwdriver
.... (VFK0189)

1. Set the tracking control into the detent (fixed) position. And connect the oscilloscope to the TP3012.
2. Playback the monoscope portion of the alignment tape VFM8100H3D and confirm the envelope figure.
3. If the adjustment is required, set the H-position adjustment screwdriver into the slot of the adjustment nut and rotate in either of direction to obtain maximum envelope output.

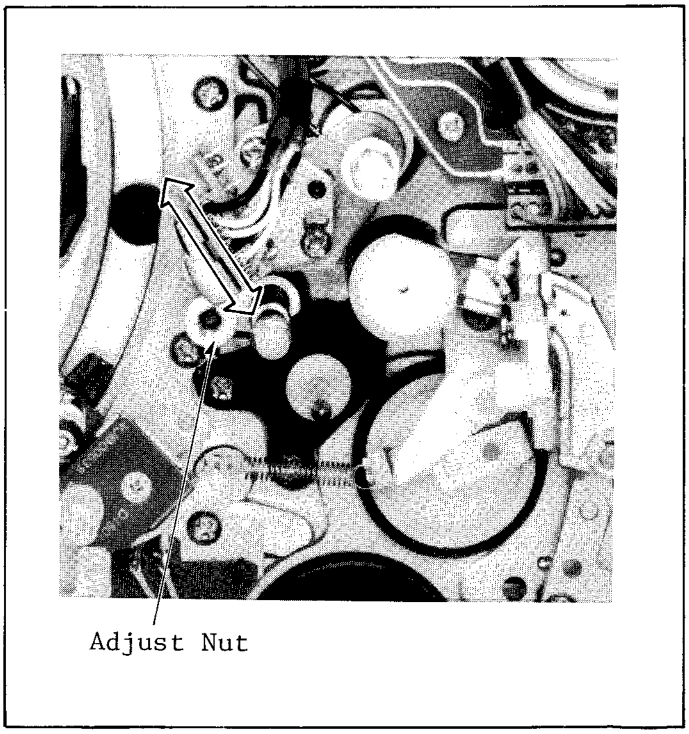


Fig. M41

14-2. Confirmation/Adjustment of A/C Head Height

A. Confirmation Procedure
Looking at the lower edge of the control head with the tape running, ensure the lower edge of tape runs along the lower edge of the control head.

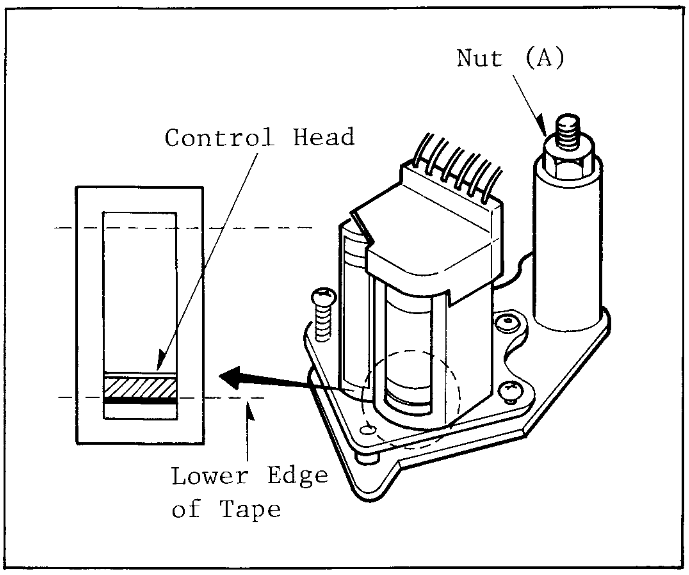

Nut (A)
Control Head
Lower Edge of Tape

Fig. M42

B. Adjustment Procedure
Slightly turn the nut (A) in either directions to correct it. Turn clockwise to lower the head and counterclockwise to raise it.

Note:
Unless the A/C Head is replaced, this adjustment should not be done.

14-3. Tilt Adjustment of A/C Head

* Equipment Required:
Hex. Wrench, (1.5mm) ... (VFK76)

A. Pre-Adjustment Procedure
Playback the tape and confirm the tape runs between lower and top limiters of the post P4. If the lower edge or top edge of the tape turns with waving or frilling, then correct the tilt of the A/C head by turning a hex. screw. (A hex. screw indicated in Fig. M38.)

Note:
Unless the post P4 is pre-adjusted, this pre-adjustment procedure should not be done. (Refer to the section of "Height Adjustment of Tape Guide Posts".

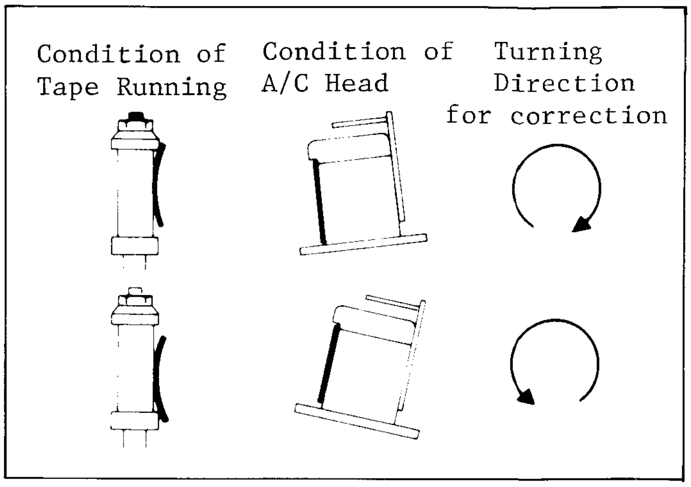

Condition of Tape Running
Condition of A/C Head
Turning Direction for correction

Fig. M43 Tilt Pre-Adjustment

B. Adjustment Procedure

1. Connect the oscilloscope to Test Point TP3012 on the Video Section.
2. Playback the monoscope portion of the alignment tape, VFM8100H3D and adjust the hex. screw so the RF envelope output level becomes maximum.

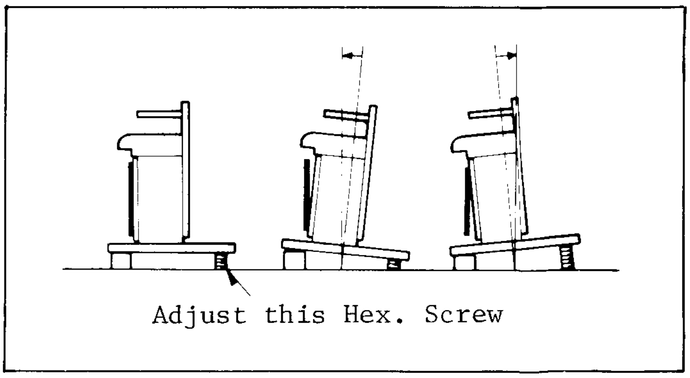

Adjust this Hex. Screw

Fig. M44

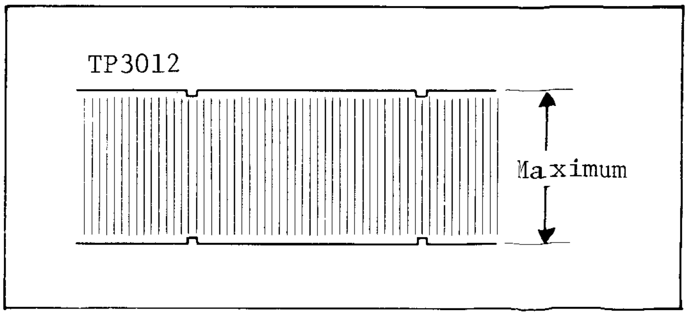

TP3012
Maximum

Fig. M45

14-4. Audio Azimuth Adjustment

* Equipment Required:
VHS Alignment Tape VFM8100H3D
Hex. Wrench (1.5mm) ... VFK76

1. Connect the oscilloscope to the audio output on the rear of the deck.
2. Playback the monoscope portion (6 kHz, Audio) of the alignment tape, VFM8100H3D.
3. Adjust screw (A) without spring on the head base so the output level becomes maximum.

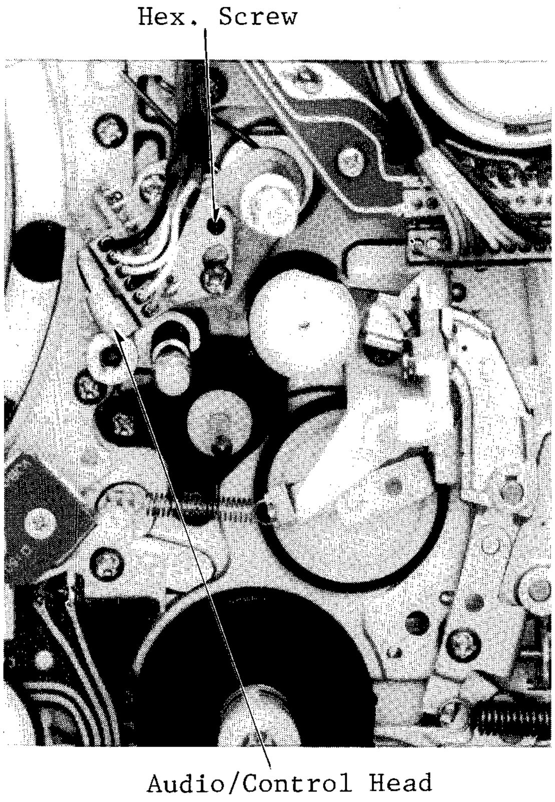


Fig. M46

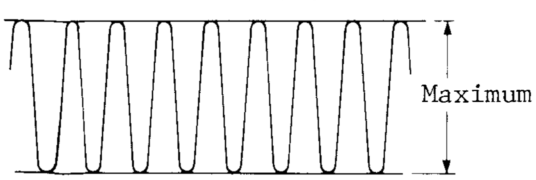


Fig. M47

15. Adjustment of Cassette Holder

This adjustment is required only when the screw (A) was removed accidentally.

* Equipment Required:
Cassette Holder Fixture ... VFK0188

Note:
Before adjustment, ensure the cassette lock lever is unlatched.

1. Remove the Cassette Guide and slightly loosen 6 screws (A) and (B). Keep the cassette holder ejected condition.
2. Insert the fixture and push all the way in till it touches the tabs on the cassette holder. Hold the fixture and cassette holder together with your hand, then slowly lower them with watching all holes and cut-outs till the cassette holder latches.

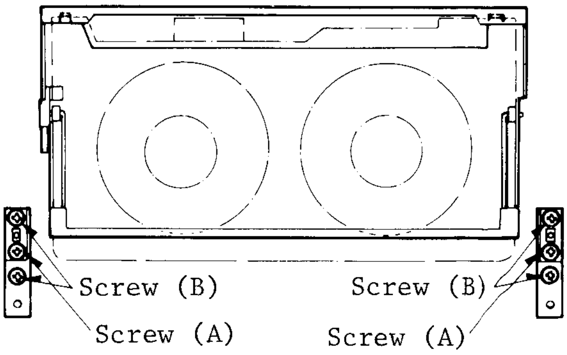


Fig. M48

3. Press the center portion of the fixture down not for missing adjusted position then tighten 6 screws.
4. Supply power and ensure the smooth movement by repeating pressing down and ejecting of the cassette holder.

16. Adjustment of Cam Gear and Mode Select Switch

General Condition:

The mechanism of this model is mostly engaged to the electrical circuit, System Control Circuit, through the mode select switch. Therefore the relation between the mode switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If the adjustment of this item is performed inproperly, the deck will be unloaded or compulsorily stopped. And it will result being damaged at any mechanical or electrical parts.

A. Adjustment Procedures of Cam Gear

1. Turn Loading gear clockwise until the post 2 and 3 were fully unloaded. The small projection on the loading gear will be top portion under the condition of Unloading Completion.

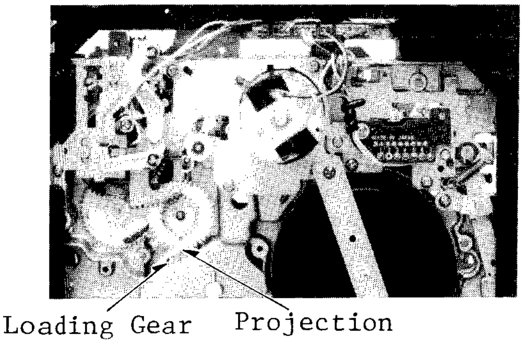

Loading Gear
Projection

Fig. M49

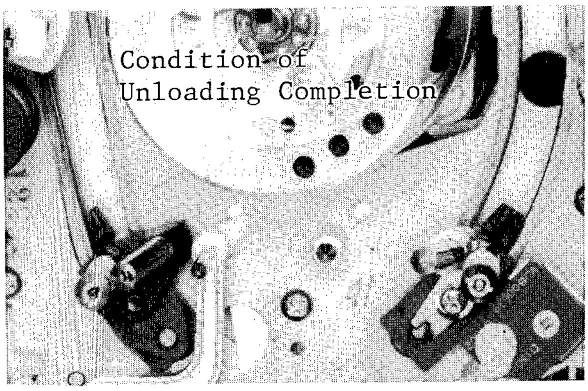

Condition of
Unloading Completion

Fig. M50

2. Install the action gear so the hole on the action gear meets the projection on the loading gear. Ensure that the loading gear is still in the condition of the unloading completion.

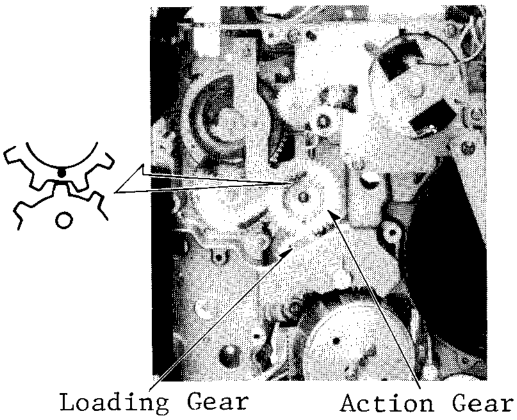

Loading Gear
Action Gear

Fig. M51

3. Slowly slide the main rod so the V-shaped mark meet the V-shaped mark of the mode select switch. With the result, main rod and mode select switch are in a position to be stop (unloading completion) mode.
4. Insert the cam gear so the hole (A) on the gear meets the hole on the main rod. To meet the two holes easier, use the small hex. wrench (VFK75) or metal pin.
Also ensure the two V-shaped marks are fixed.

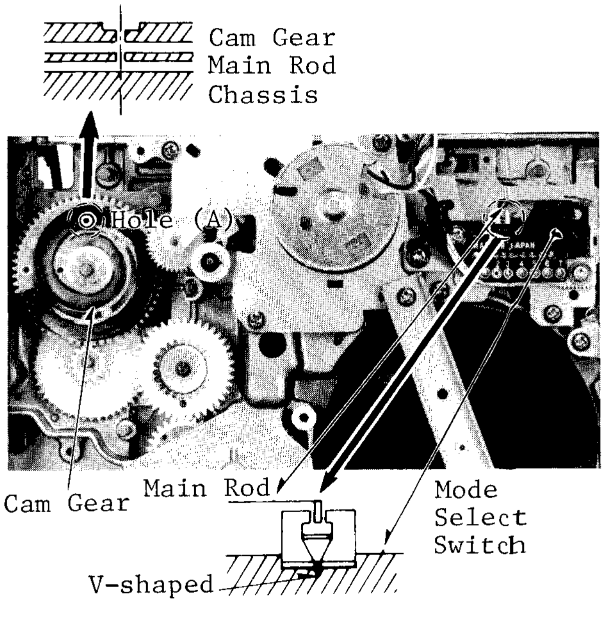

Cam Gear
Main Rod
Chassis
Hole (A)
Cam Gear
Main Rod
Mode Select Switch
V-shaped

Fig. M52

5. Install the sector gear so the pin on the sector gear meets the inner slot of the cam gear (simple slot side). And install 2 retaining rings to mount cam gear and sector gear.

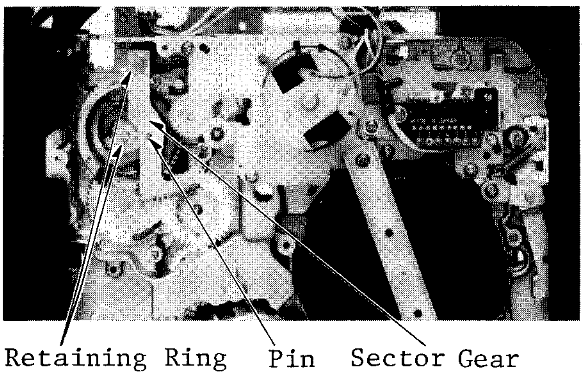

Retaining Ring
Pin
Sector Gear

Fig. M53

6. Final figure should become as shown below, and at the same time two V-shaped marks are fixed at the mode select switch.

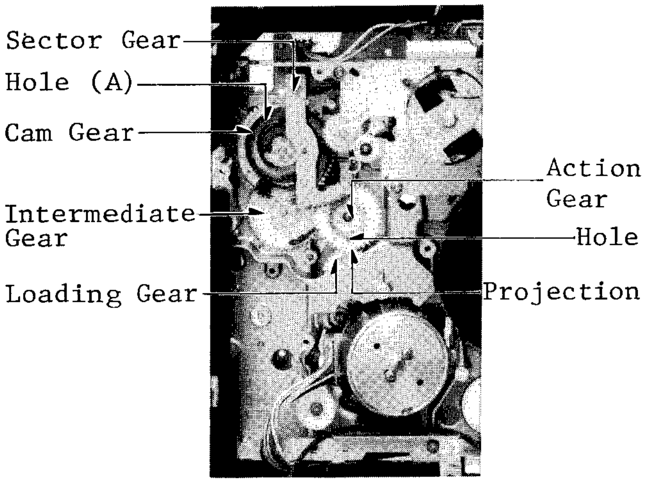

Sector Gear
Hole (A)
Cam Gear
Intermediate Gear
Loading Gear
Action Gear
Hole
Projection

Fig. M54

7. Install the gear protector and tighten the nut for mounting it. And install the large gear so the teeth of it contact the outer teeth of the intermediate gear. Then install a retaining ring to mount it.

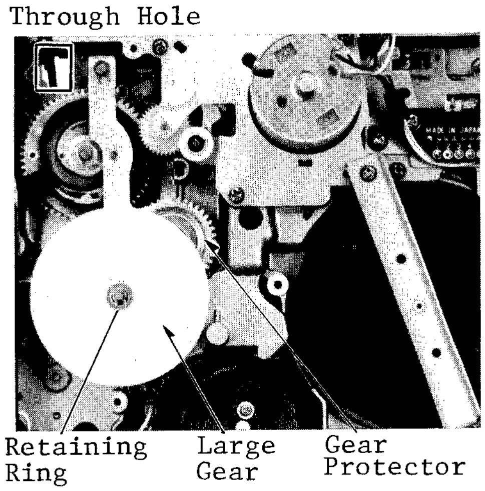

Through Hole
Retaining Ring
Large Gear
Gear Protector

Fig. M55

8. Set the cassette lock lever unit closed and install it from the hole on the chassis shown above.

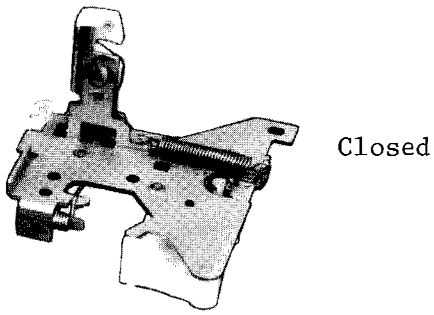


Fig. M56

9. Tighten 2 screws (B), install the belts and belt cover and tighten a screw (C). Turn the large pulley in both direction to confirm the smooth movement of this mechanism.

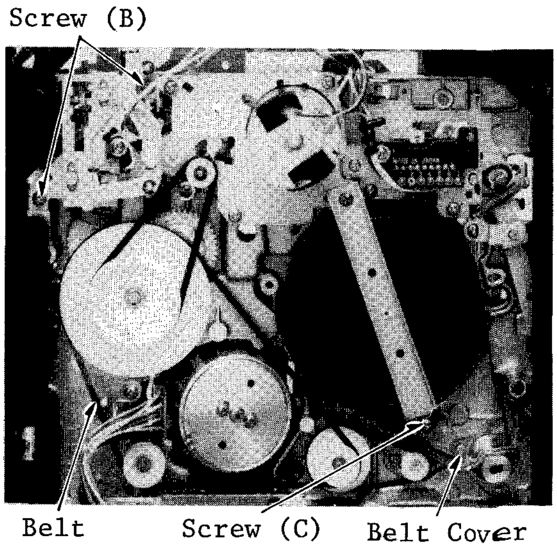

Screw (B)
Belt
Screw (C)
Belt Cover

Fig. E57

B. Adjustment Procedures of Mode Select Switch

* Equipment Required:
Fine Adjustment Screwdriver
.... (VFK0136)

1. Fix the main rod in the condition of unloading completion.
2. Slightly loosen two screws (A) and the fine adjustment screwdriver into the hole (B).
3. Turning the fine adjustment screwdriver, adjust the position of the mode select switch so that the two V-shaped marks of the mode select switch just correspond at the same position. Then tighten two screws (A).
4. Make sure that the movement of the deck is in normal condition.

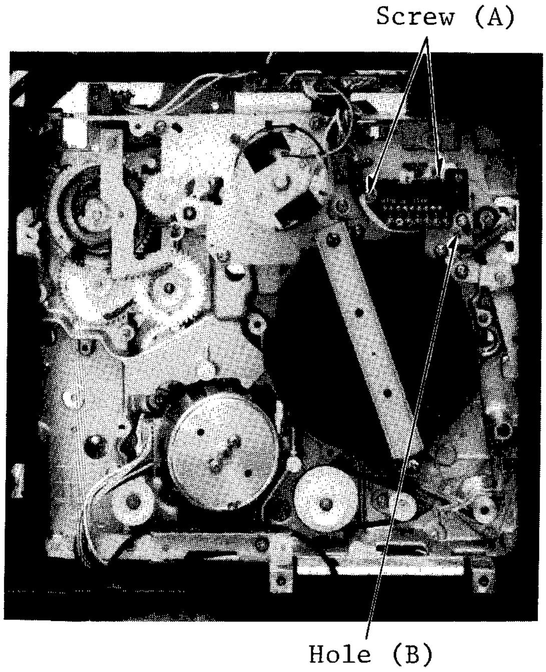
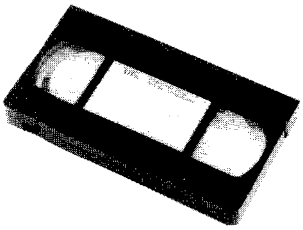


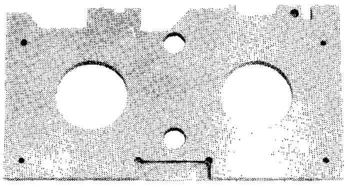
Fig. M58

Servicing Fixtures & Tools

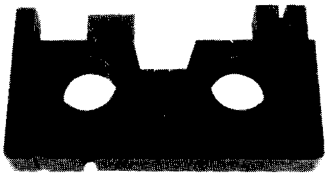
VFM8100H3D VHS Alignment Tape



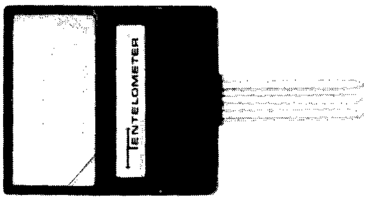
VFK0138 Post Adjustment Plate



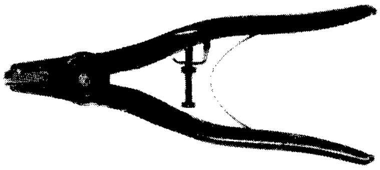
VFK0188 Cassette Holder Fixture



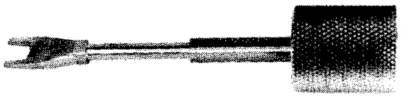
Back Tension Meter
(Tentelometer, Made in U.S.A.)



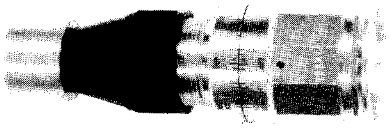
VFK0144 Retaining Ring Remover (3mm)
VFK0145 Retaining Ring Remover (4mm)



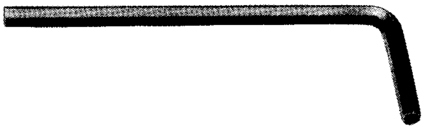
VFK0189 H-Portion Adj. Fixture



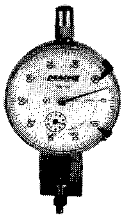
VFK0133 Dial Torque Gauge
VFK0134 Adaptor for VFK0133
VFK0180 (Plastic Clamper Only)



VFK0146 Hex. Wrench (0.9mm)
VFK75 Hex. Wrench (1.25mm)
VFK76 Hex. Wrench (1.5mm)

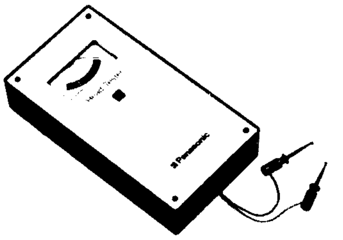


VFK0139 Reel Table Height Jig

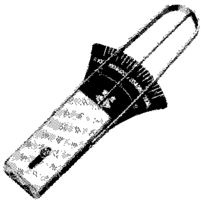


VFK0135 Eccentric Screwdriver

VFK0184 Head Tester

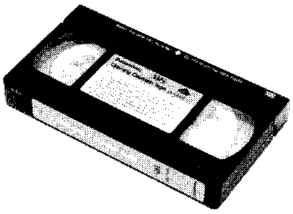


VFK66 Fan Type Tension Gauge

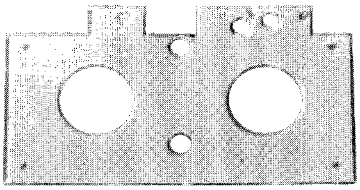


VFK0136 Fine Adjustment Screwdriver

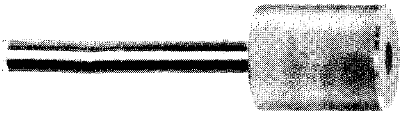
VFK0185 Cleaning Cassette Tape



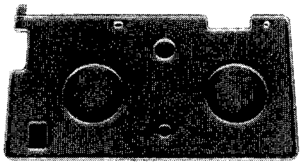
VFK0141 Capstan Reference Plate



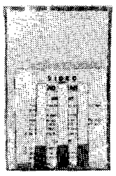
VFK0137 Post Adjustment Screwdriver



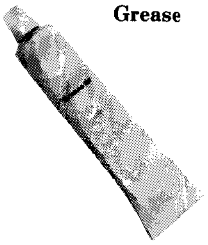
VFK0187 Tension Post Adj. Fixture



VFK27
Head Cleaning
Stick



MOR265 Morlytone
Grease



ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be requird for electronic circuits of VHS video cassette recorder.

1. Test Equipments

To perform the electrical adjustments completely, following equipment is required.

1. VTVM (Vacuum Tube Volt Meter) or
   DVM (Digital Volt Meter)
   Voltage Range: 0.001-50V
2. Dual-Trace Oscilloscope
   Voltage Range: 0.005-50V/div.
   Frequency Range: DC-10MHz
   Probes: 10:1 or 1:1
3. Frequency Counter
   Frequency Range: 0-10MHz
4. Signal Generator (Sinewave)
   Frequency Range: 0-10MHz
5. Video Sweep Generator
   Frequency Range: 0-10MHz
6. Colour Receiver or Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFM8100H3D)

2. Adjustment Procedures

These adjustment procedures consist of the following sections.

1. Power Supply Section
2. System Control Section
3. Servo & Still Section
4. Video, Colour & Audio Section
5. Timer Section
6. Demodulator Section

2-1. POWER SUPPLY SECTION

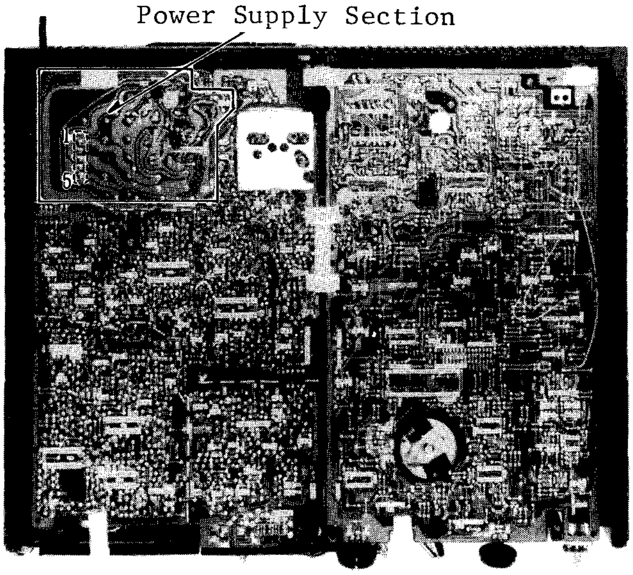


Fig. E1 Power Supply Section

2-1-1. Confirmation of Regulated +9V

Test Point: TP1001

1. Place the unit in STOP mode.
2. Connect the DVM to TP1001 on the Power Supply Sections.
3. Make sure that the indication of DVM is 9.3 ± 0.1V DC.

2-2. SYSTEM CONTROL SECTION

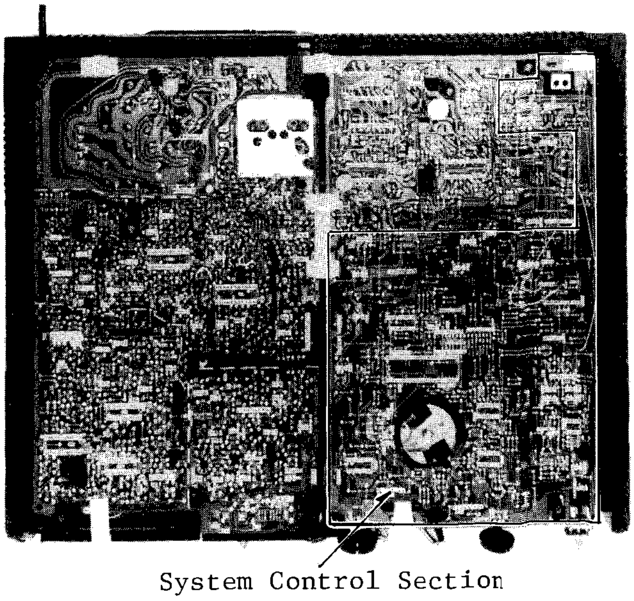


Fig. E2 System Control Section

2-2-1. Confirmation of Clock Frequency of Microcomputer

Test Point: Pin (13) of IC6001

1. Place the unit in STOP mode.
2. Connect the scope to pin 13 of IC6001 on the System Control Section.
3. Make sure that the clock pulse width A is 900μsec ± 9μsec and the period is 16.7msec ± 1.7msec as shown below.

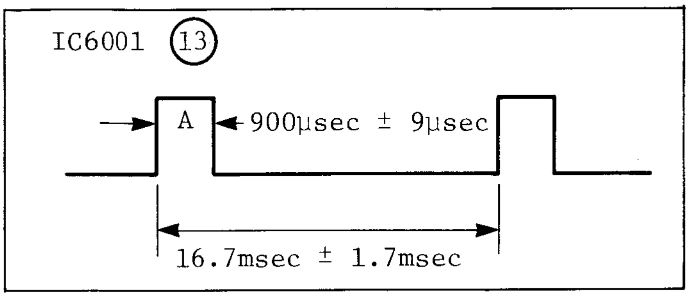

IC6001 ⑬
A
900μsec ± 9μsec
16.7msec ± 1.7msec

Fig. E3 Clock Pulse

2-3. SERVO SECTION

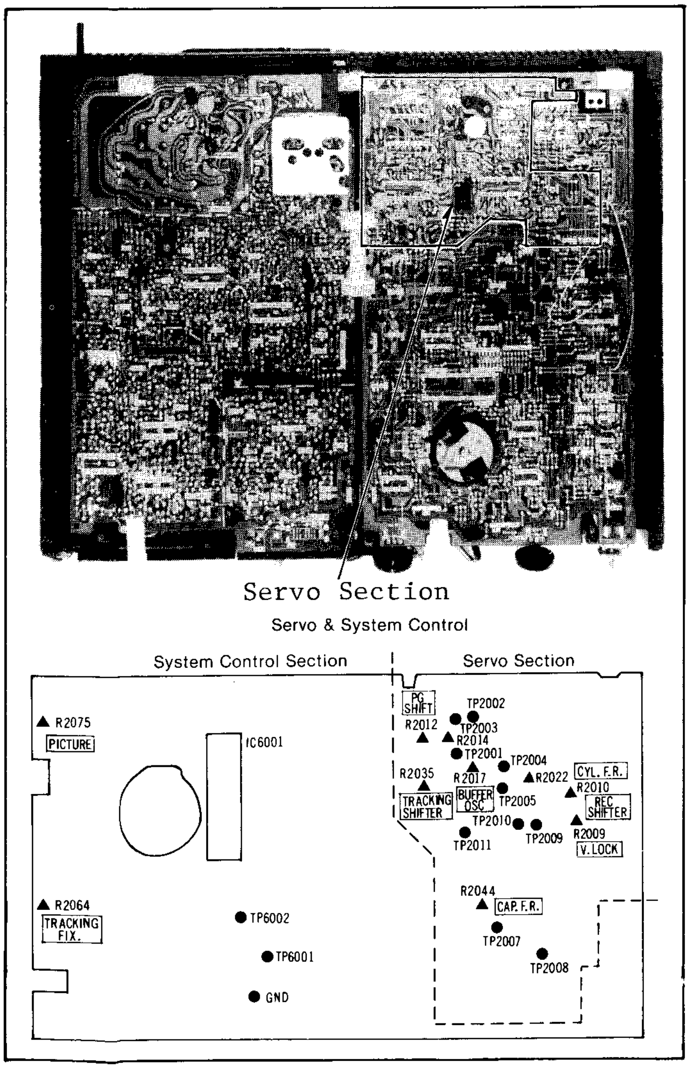

Servo Section
Servo & System Control
System Control Section
Servo Section
R2075
PICTURE
IC6001
R2064
TRACKING FIX.
TP6002
TP6001
GND
PG SHIFT
TP2002
R2012
TP2003
R2014
TP2001
TP2004
R2035
R2017
R2022
CYL. F.R.
R2010
TRACKING SHIFTER
BUFFER OSC
TP2005
REC SHIFTER
TP2010
TP2011
TP2009
R2009
V. LOCK
R2044
CAP. F.R.
TP2007
TP2008

Fig. E4

2-3-1. Buffer Oscillator Frequency Adjustment

Test Point: TP2001
Adjustment: R2017 (Buffer OSC)

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP2001 on the Servo Section, and place the unit in Rec·Play mode.
3. Adjust R2017 on the same section so that the period of "T" becomes 21 $^{+0}_{-0}$.2msec.

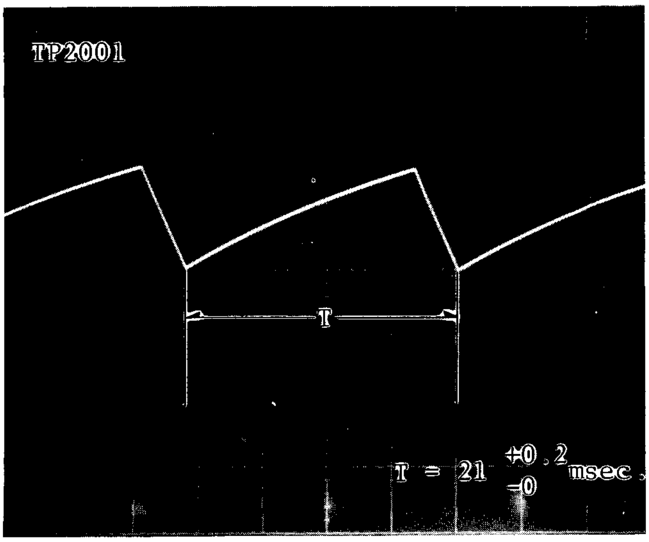


Fig. E5 5V/5msec. div.

4. Next, supply a video signal to the VIDEO INPUT.
5. Make sure that the above period of "T" is 20msec.

2-3-2. Cylinder Free Run Adjustment

Test Points: TP2003, TP2004, TP2005
Adjustment: R2022 (Cylinder Free Run)

1. Supply a video signal to the VIDEO INPUT on the front panel or tune in a local on-air TV program.
2. Connect the scope CH1 to TP2003 and CH2 to TP2004 on the Servo Section.
3. Place the unit in Rec•Play mode.
4. Pre-adjust R2085 on the same section so that the both waveforms, head switching pulse and trapezoidal waveform are phase-locked.

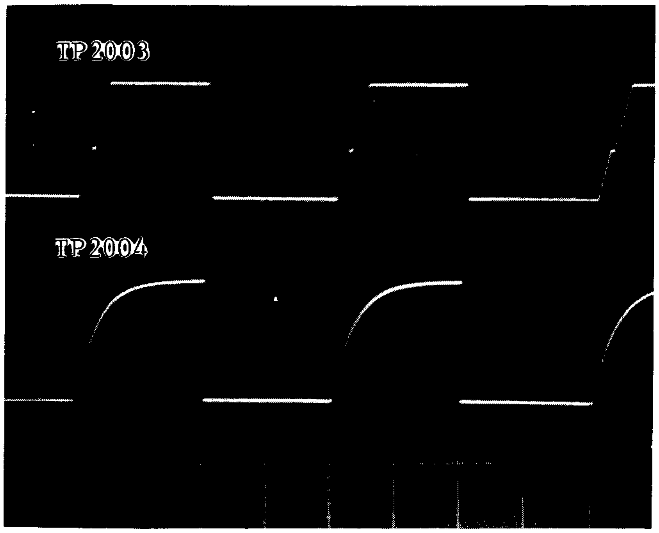


Fig. E6 TP2003 5V/10msec. div.
TP2004 5V/10msec. div.

5. Connect the DVM to TP2005 on the Servo Section.
6. Adjust R2022 so that the indication of DVM becomes 3.8V ± 0.1V DC.
7. Make sure that above waveforms are phase-locked.

2-3-3. Capstan Free Run Adjustment

Test Points: TP2009, TP2010, TP2011
Adjustment: R2044 (Capstan Free Run)

1. Supply a video signal to the VIDEO INPUT on the front panel on tune in a local on-air TV program.
2. Connect the scope CH1 to TP2009 and CH2 to TP2010 on the Servo Section.
3. Place the unit in Rec•Play mode.
4. Pre-adjust R2044 on the same section so that the both waveforms, trapezoidal waveform and sampling pulse are phase-locked.

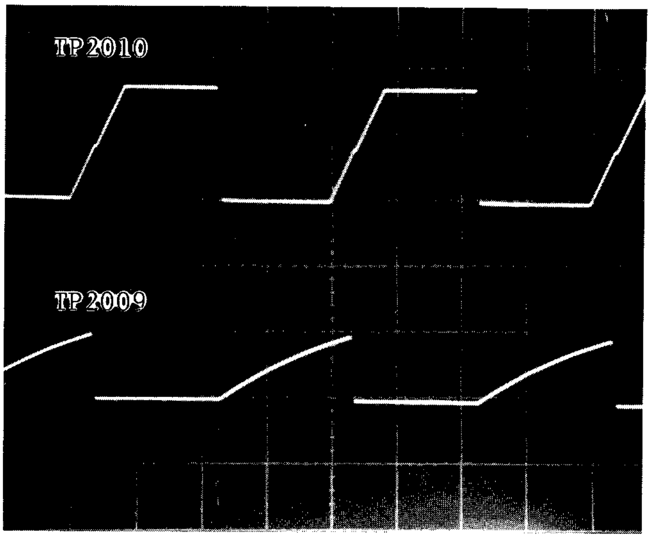


Fig. E7 TP2010 5V/10msec. div.
TP2009 5V/10msec. div.

5. Connect the DVM to TP2011 on the Servo Section.
6. Adjust R2044 so that the indication of DVM becomes 4.1 ± 0.1V DC.
7. Make sure that the both waveforms are phase-locked.

2-3-4. PG Shifter Adjustment

Test Points: TP2002, TP3013
Adjustments: R2012, R2014 (PG Shift)

1. Playback the alignment tape (VFM8100H3D).
2. Connect the scope CH1 to TP3013 on the Video Section and CH2 to TP2002 on the Servo Section.
3. Adjust R2012 on the Servo Section so that the falling edge of switching pulse is 6 ± 0.5H before the beginning of the V-sync as shown below.

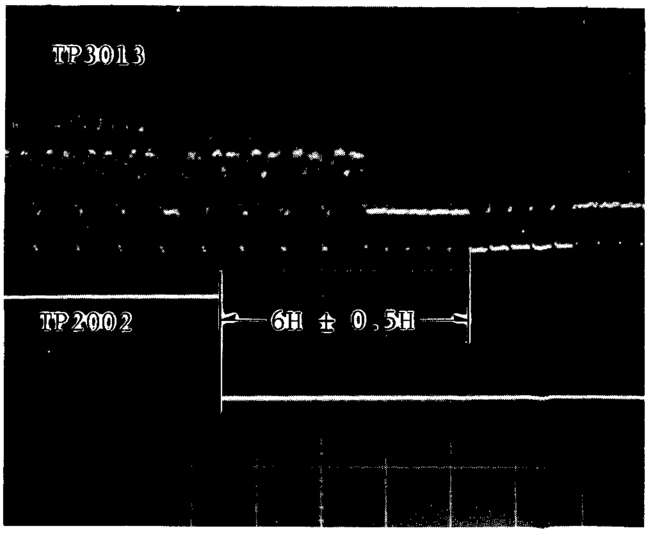


Fig. E8 TP2002 5V/0.1msec. div.
TP3013 1V/0.1msec. div.

4. Change the slope selector on the scope front "+" to "-" and adjust R2014 on the same section so that the rising edge of switching pulse is 6 ± 0.5H before the beginning of the V-sync as shown below.

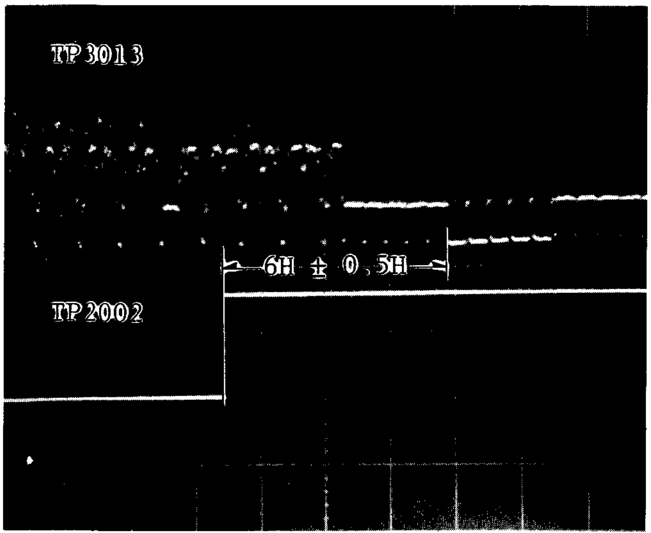

TP3013
6H ± 0.5H
TP2002

Fig. E9 TP2002 5V/0.1msec. div.
TP3013 1V/0.1msec. div.

5. Switch the slope selector on the scope to either (+) or (-) and adjust R2012 or R2014 for less than 10µsec difference.

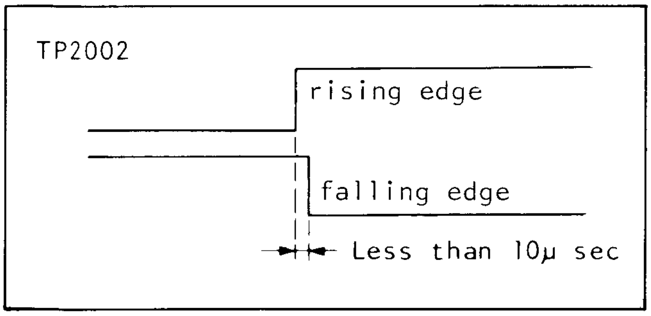
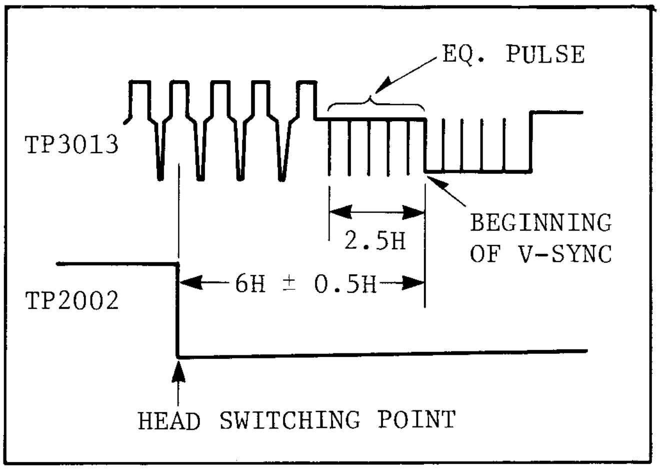

TP2002
rising edge
falling edge
Less than 10µ sec

Fig. E10 Switching Edge Difference

2-3-5. Rec Shifter Adjustment

Test Points: TP2002, TP3013
Adjustment: R2010(Rec Shift)

1. Supply a video signal to the VIDEO INPUT on the front panel or tune in a local on-air TV program.
2. Connect the scope CH1 to TP3013 on the Video Section and CH2 to TP2002 on the Servo Section.
3. Place the unit in Rec·Play mode.
4. Set the scope to the Delay mode, and expand the V-sync portion.
5. Adjust R2010 on the Servo Section so that the head switching position 6 ± 0.5H before the beginning of the vertical sync as shown below.


EQ. PULSE
TP3013
2.5H
BEGINNING OF V-SYNC
TP2002
6H ± 0.5H
HEAD SWITCHING POINT

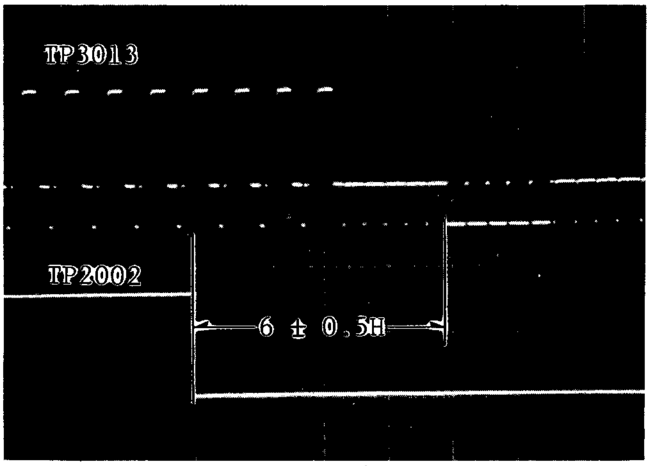

TP3013
TP2002
6 ± 0.5H

Fig. E11 TP3013 1V/0.1msec. div.
TP2002 5V/0.1msec. div.

2-3-6. Confirmation of Tracking Fix.

Test Point: TP2009

1. Supply a video signal to the VIDEO INPUT on the front panel or tune in a local on-air TV program.
2. Place the unit in Rec·Play mode.
3. Connect the scope to TP2009 and confirm the pulse width "B" is 23 ± 3msec as shown below.

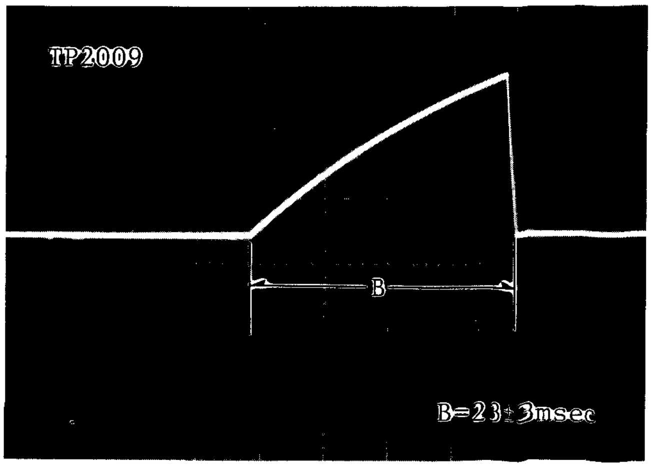

TP2009
B
B=23±3msec

Fig. E12 2V/5msec. div.

2-3-7. Tracking Monostable Multivibrator Adjustment

Test Points: TP2002, TP2009
Adjustment: R2035 (Tracking)

1. Set the TRACKING VR on the front panel to the center detent point.
2. Supply a CCIR signal to the VIDEO INPUT on the same panel, and make a recording for a few minutes.
3. Connect the scope CH1 to TP2002 and CH2 to TP2009 both on the Servo Section.
4. Playback the just recorded portion and adjust R2035 on the same section so that the both waveforms becomes as shown below.

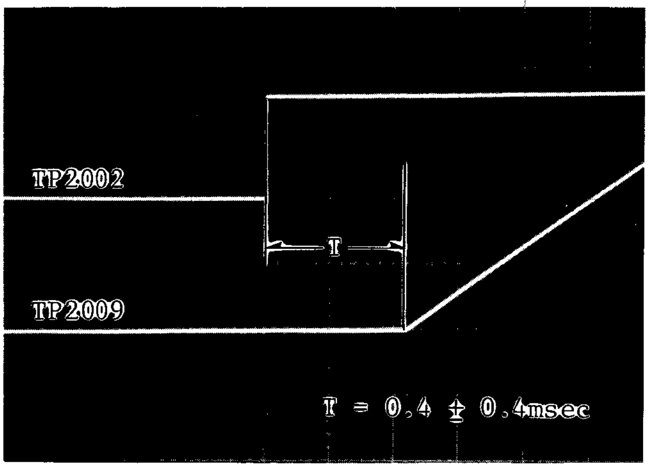


Fig. E13 TP2002 5V/0.5msec. div.
TP2009 2V/0.5msec. div.

2-3-8. Confirmation of Short Rewinding Tape Length

1. Set a 120 minutes tape to the unit.
2. Slightly rewind the tape from tape end.
3. Place the unit in REC•PLAY mode and press the PAUSE button. Then, confirm the Short Rewinding tape length is between 4cm and 6cm.

2-3-9. Phase Adjustment of Additional Vertical Sync Pulse

Test Points: TP2002, TP3013
Adjustment: R2010

1. Playback the alignment tape (VFM8100H3D) and place the unit in STILL mode.
2. Connect the scope CH1 to TP2002 on the Servo Section and CH2 to TP3013 on the Video Section.
3. Set the scope to Delay mode, and expand the Additional V-Sync portion.
4. Adjust R2010 on the Servo Section so that the beginning of the Additional V-Sync Pulse is 150μsec ± 20μsec after the head switching position as shown below.

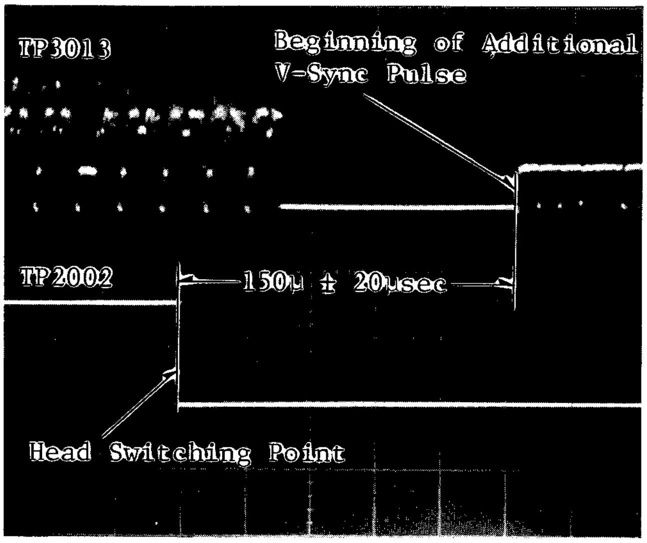


Fig. E14 TP3013 1V/100μsec. div.
TP2002 5V/100μsec. div.

2-4. VIDEO, COLOUR & AUDIO SECTION

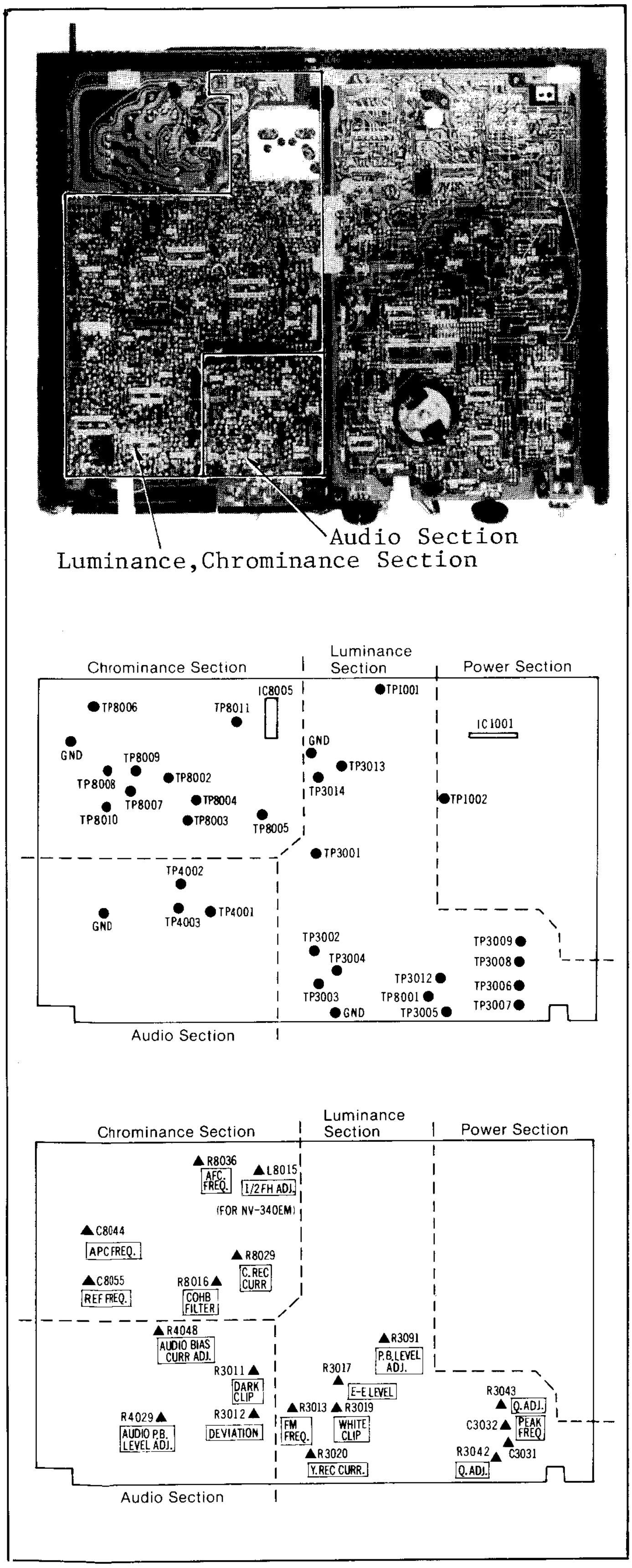

Audio Section
Luminance,Chrominance Section
Chrominance Section
Luminance Section
Power Section
IC8005
TP8006
TP8011
TP1001
IC1001
GND
TP8009
TP8008
TP8002
TP8007
TP8004
TP8010
TP8003
TP8005
TP3013
TP3014
TP1002
TP3001
TP4002
GND
TP4003
TP4001
TP3002
TP3004
TP3003
TP3012
TP8001
GND
TP3005
TP3009
TP3008
TP3006
TP3007
Audio Section
Chrominance Section
Luminance Section
Power Section
R8036
AFC. FREQ.
L8015
1/2FH ADJ.
(FOR NV-340EM)
C8044
APC FREQ.
R8029
C.REC CURR
C8055
REF FREQ.
R8016
COHB FILTER
R4048
AUDIO BIAS CURR ADJ.
R3011
DARK CLIP
R3012
DEVIATION
R4029
AUDIO P.B. LEVEL ADJ.
R3091
P.B.LEVEL ADJ.
R3017
E-E LEVEL
R3013
FM FREQ.
R3019
WHITE CLIP
R3020
Y.REC CURR.
R3043
Q.ADJ.
C3032
PEAK FREQ
R3042
Q.ADJ.
C3031
Audio Section

Fig. E15

2-4-1. E-E Level Adjustment

Test Point: TP3013
Adjustment: R3017 (E-E Level)

1. Supply a colour bar signal to the VIDEO INPUT on the front panel and disconnect the connector from the VIDEO OUTPUT on the rear panel.
2. Place the unit in REC·PLAY mode and connect the scope to TP3013 on the Video Section.
3. Adjust R3017 on the same section so that the waveform becomes 2.0 ± 0.1Vp-p.

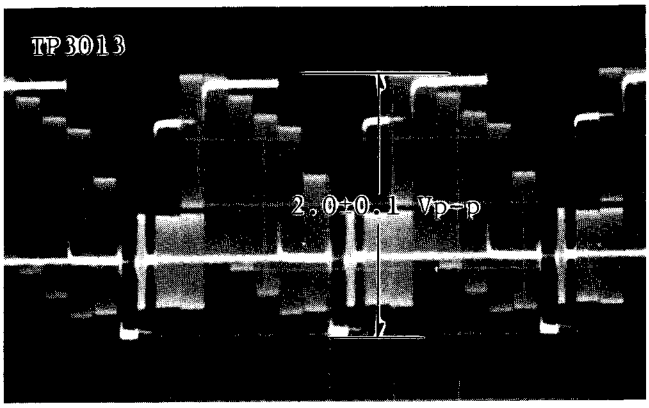


Fig. E16 500mV/20μsec. div.

2-4-2. Dark & White Clip Adjustments

Test Point: TP3002
Adjustments: R3011 (Dark Clip)
R3019 (White Clip)

1. Supply a colour bar signal to the VIDEO INPUT on the front panel and place the unit in REC·PLAY mode.
2. Connect the scope to TP3002 on the Video Section.
3. Adjust R3011 and R3019 on the same section so that the waveform becomes as shown below.

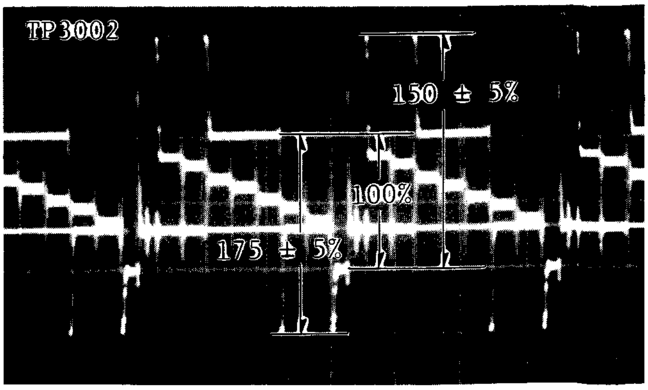


Fig. E17 200mV/20μsec. div.

2-4-3. Sync Tip Frequency and Deviation Adjustments

Test Points: TP3003, TP3013
Adjustments: R3012, R3013, R3091

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Place the unit in REC•PLAY mode, and connect the frequency counter to TP3003 on the Video Section.
3. Adjust R3013 so that the indication of the frequency counter becomes 3.8MHz ± 0.1MHz.
4. Next, playback the alignment tape (VFM8100H3D).
5. Connect the scope to TP3013 on the Video Section.
6. Adjust R3091 on the same section so that the video level becomes 2.0 ± 0.1Vp-p.
7. After above adjustments, supply a colour bar signal to the VIDEO INPUT on the front panel, and make a recording for a few minutes.
8. Connect the scope to TP3013, and play back the just recorded portions.
9. Adjust R3012 until the playback level becomes 2.0 ± 0.1Vp-p, repeating the procedures in item 7 and item 8.

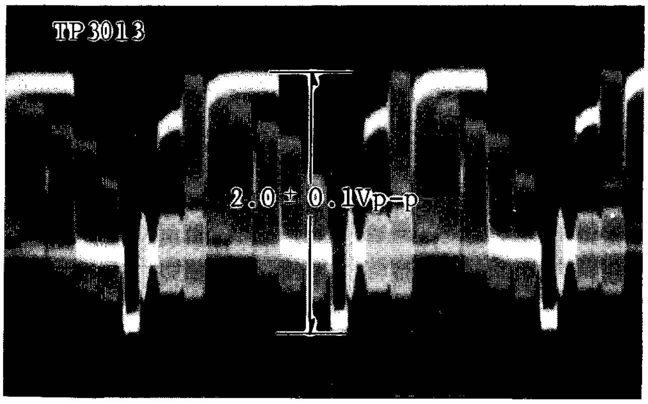


Fig. E18 500mV/20μsec. div.

2-4-4. Video Rec Current Adjustment

Test Points: TP3008 (Hot)
TP3009 (GND)
Adjustments: R3020 (Y. Rec. Curr.)
R8029 (C. Rec. Curr.)

1. Supply a colour bar signal to the VIDEO INPUT on the front panel and place the unit in REC•PLAY mode.
2. Connect the scope to TP3008 (Hot) and TP3009 (GND) on the Video Section.
3. Connect a jumper between TP3003 and GND on the same section.
4. Adjust R8029 on the same section so that the waveform becomes as shown below.

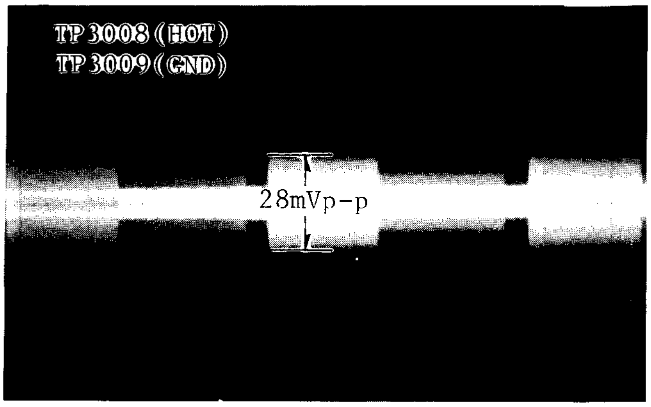


Fig.E19 20mV/5msec. div.

5. Remove a jumper, and adjust R3020 on the same section so that the waveform becomes as shown below.

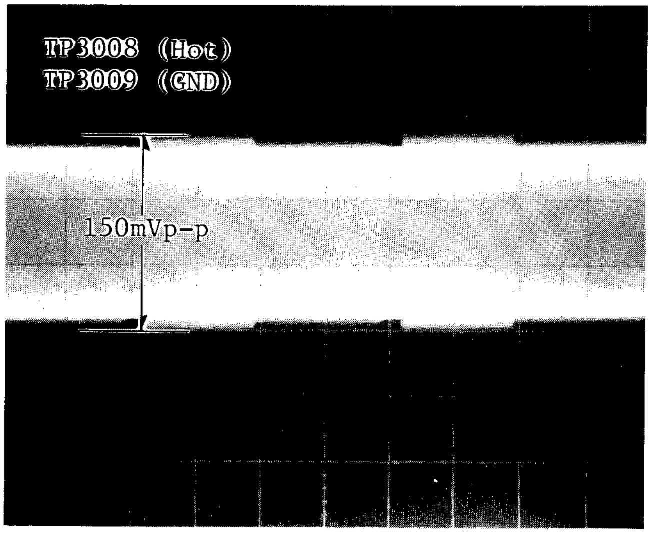


Fig. E20 50mV/5μsec. div.

2-4-5. AFC Freauency Adjustment

Test Point: TP8006
Adjustment: R8036 (AFC)

1. Disconnect the connector from the VIDEO INPUT on the front panel.

2. Connect the frequency counter to TP8006 on the Colour Section, and place the unit in Rec mode.
3. Adjust R8036 on the same section so that the indication of the frequency counter becomes 15.625kHz ± 50Hz.

2-4-6. APC Frequency Adjustment

Test Point: TP8008
Adjustment: C8044 (APC)

1. Disconnect the connector to the VIDEO INPUT on the front panel, and place the unit in Rec mode.
2. Connect a jumper between TP8007, TP8009 and GND on the Colour Section.
3. Connect the frequency counter to TP8008 on the same section.
4. Adjust C8044 on the same section so that the indication of the frequency counter becomes 4.433619 MHz ± 50Hz.

2-4-7. Reference Oscillator Adjustment

Test Point: TP8010
Adjustment: C8055 (REF.)

1. Do not supply any video signal to the VIDEO INPUT on the front panel, and place the unit in Stop mode.
2. Connect the frequency counter to TP8010 on the Colour Section by using 10:1 probe.
3. Adjust C8055 on the same section so that the indication of the frequency counter becomes 4.433619 MHz ± 10Hz.

2-4-8. Comb Filter Adjustment

Test Point: TP8005
Adjustment: R8016

1. Set the Signal Select Button on the Sweep Generator to "CHROMA".
2. Supply the output of the Sweep Generator to TP8003 on the Colour Section.
3. Connect the scope to TP8005 and set the output level of the Sweep Generator to 600mVp-p.
4. Adjust R8016 so that carrier leakage "A" at 4.43MHz becomes minimum as shown below.

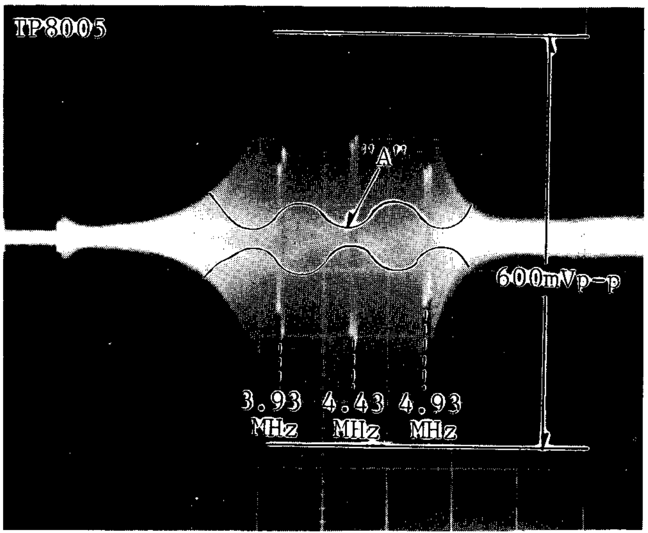


Fig.E21 100mV/5msec. div.

2-4-9. SECAM Killer Adjustment (For NV-333EG)

Test Point: Pin (9) of IC8005
Adjustment: L8015

1. Supply a SECAM colour bar signal to the VIDEO INPUT on the front panel, and place the unit in REC·PLAY mode.
2. Connect the scope to pin 9 of IC8005.
3. Adjust L8015 so that the point "A" is the lower peak on the waveform as shown below.

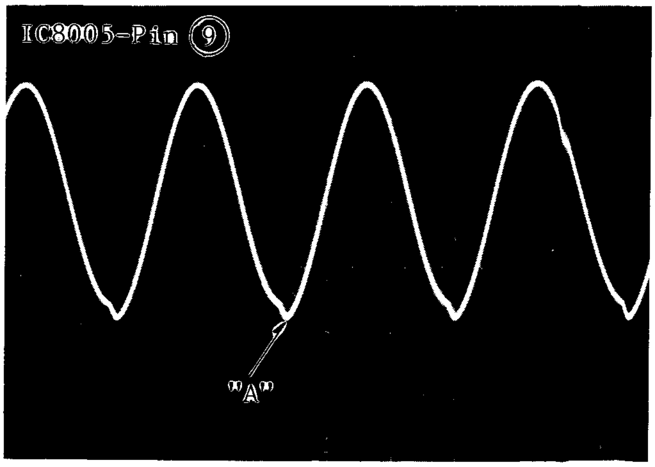


Fig. E22 2V/50µsec. div.

2-4-10. Head Amp Peak Frequency Adjustment

Test Point: TP8001
Adjustments: C3031, C3032 ... PEAK FREQ.
R3042, R3043 ... Q ADJ.

1. Set the output of the Sweep Generator to 200mVp-p.
2. Supply the above signal to TP3006 and TP3008 on the Video Section through the resistor 39kΩ as shown below.

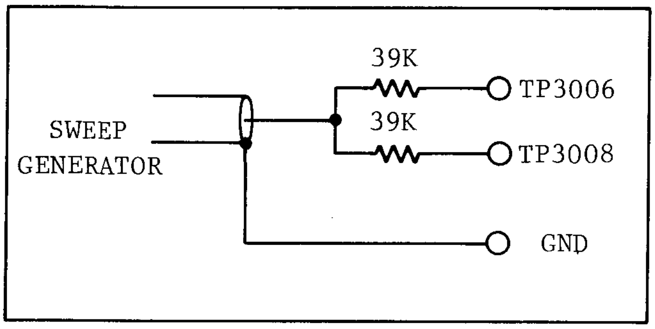


Fig. E23

3. Place the unit in PLAYBACK mode with a blank tape.
4. Connect the scope to TP8001 on the Colour Section.
5. Adjust R3042 and R3043 on the Video Section so that the level at 4.9MHz becomes maximum, to keep its balance.
6. Adjust C3031 and C3032 on the same section so that the peak on the scope becomes 4.9MHz as shown below.

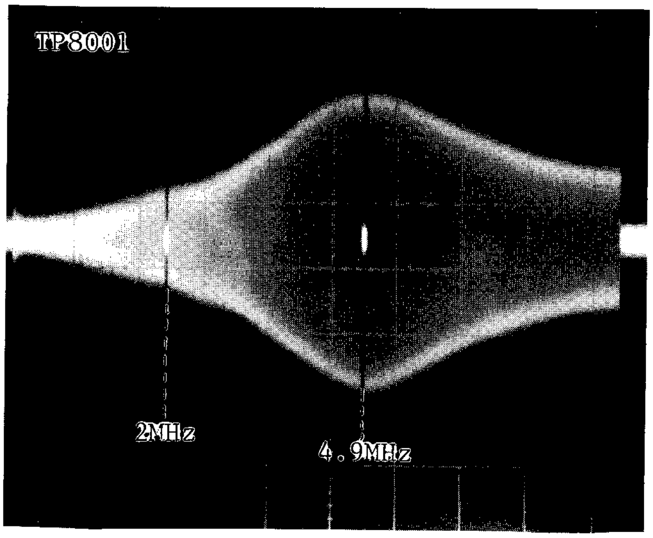


Fig. E24 50mV/2msec. div.

2-4-11. Head Amp Frequency Response Adjustment

Test Point: TP3013
Adjustments: R3042, R3043

1. Set the PICTURE SHARPNESS CONTROL VR on the front panel to the click point.
2. Set the output level of the Sweep Generator as shown below.

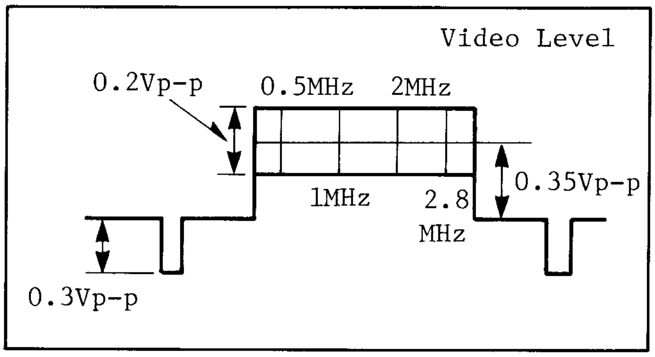


Fig. E25

3. Supply the above signal to the VIDEO INPUT on the front panel, and make a recording for a few minutes.
4. Connect the scope to TP3013 on the Video Section, and playback the just recorded portions.
5. Adjust R3042 and R3043 on the same section so that the waveform becomes as shown below.

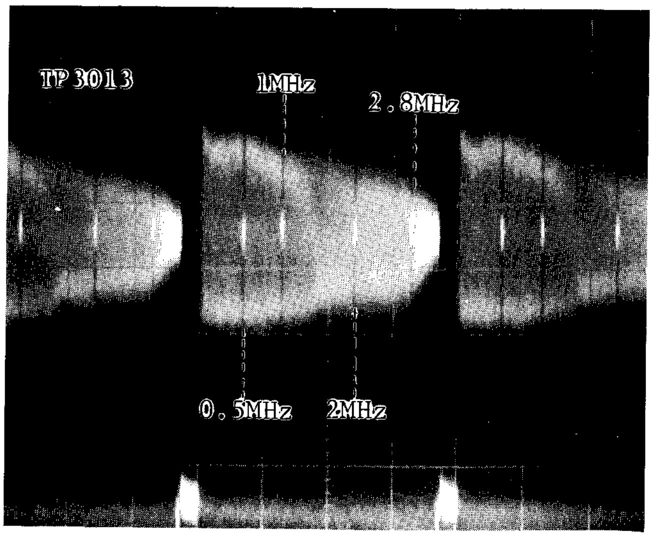


Fig. E26-(1) 100mV/5msec. div.

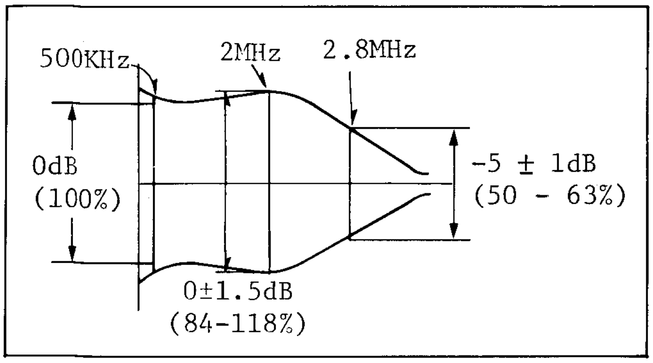


Fig. E26-(2)

2-4-12. Playback Level Adjustment

Test Point: TP3013
Adjustment: R3091

1. Supply a colour bar signal to the VIDEO INPUT on the front panel, and make a recording for a few minutes.
2. Connect the scope to TP3013 on the Video Section, and playback the just recorded portions.
3. Adjust R3091 on the same section so that the video level becomes 2.0 ± 0.1Vp-p.
   Then, make sure that the cyan level is 1.0 ± 0.15Vp-p.

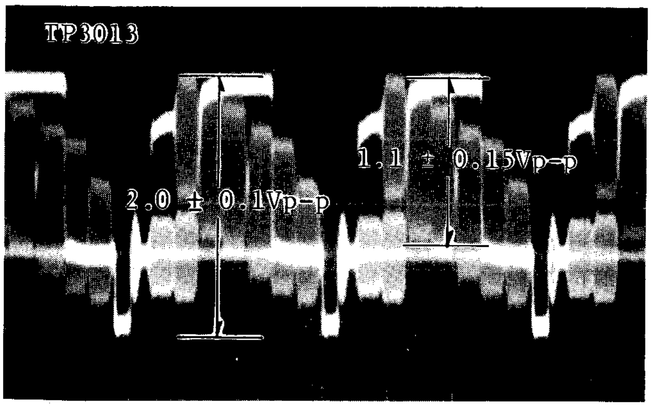


Fig. E27 500mV/20µsec. div.

2-4-13. Confirmation of Test Signal Frequency

Test Point: TP3014

1. Do not supply any video signal to the VIDEO INPUT on the front panel.

- Place the unit in Stop mode.
  Set the Colour/Test Signal Select
- Switch on the Output Jack Board to TEST SIGNAL.
- Connect the scope to TP3014, and make sure that a period of the H-Sync is 64 ± 0.3µsec as shown below.

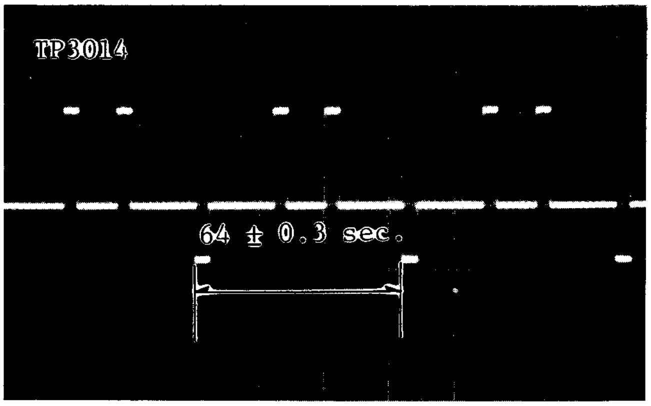


Fig. E28 500mV/20µsec. div.

2-4-14. Confirmation of E-E Audio Level

Test Point: AUDIO OUT

1. Supply audio signal (1kHz, -10dB) to the AUDIO INPUT on the front panel.
2. Place the unit in STOP mode.
3. Connect the scope to AUDIO OUT terminal.
4. Make sure that the audio level is between 1Vp-p (-9dB) and 1.6Vp-p (-5dB).

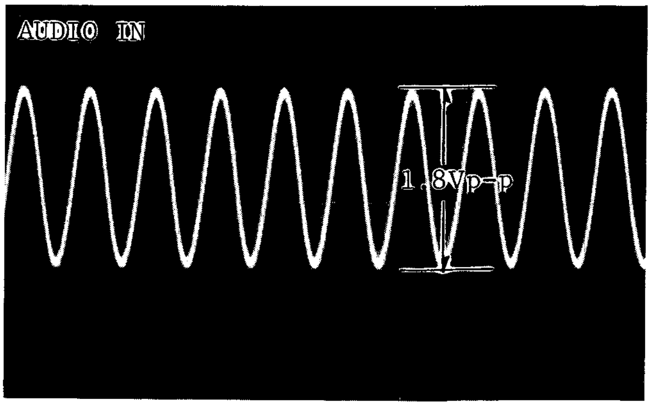


Fig. E29 50mV/1msec. div.

2-4-15. Audio Bias Current Adjustment

Test Points: TP4002 (HOT)
TP4003 (GND)
Adjustment: R4048

1. Do not supply any audio signal to the Audio Input on the front panel.
2. Connect the scope to TP4002 (HOT) and TP4003 (GND) on the Audio Section.
3. Place the unit in REC·PLAY mode.
4. Adjust R4048 on the Audio Section so that the waveform becomes 9.6 ± 0.3mVp-p as shown below.

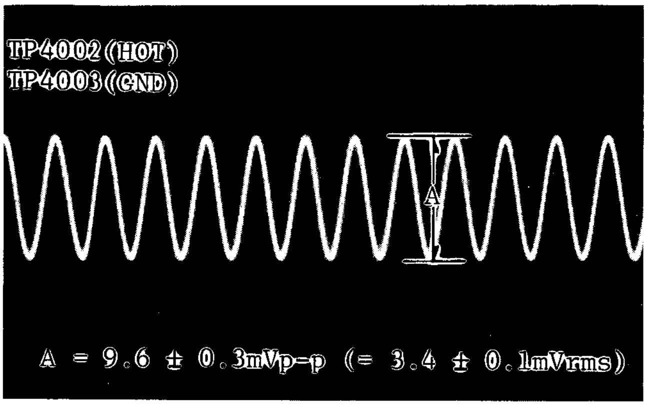


Fig. E30 5mV/20μsec. div.

2-4-16. Audio Playback Level Adjustment

Test Point: TP4001
Adjustment: R4029

1. Supply audio signal (1kHz, -10dB) to the AUDIO INPUT on the front panel and make a recording for a few minutes.
2. Connect the scope to TP4001 on the Audio Section and playback the just recorded portion.
3. Adjust R4029 so that the playback level becomes E-E level ± 140mVp-p.

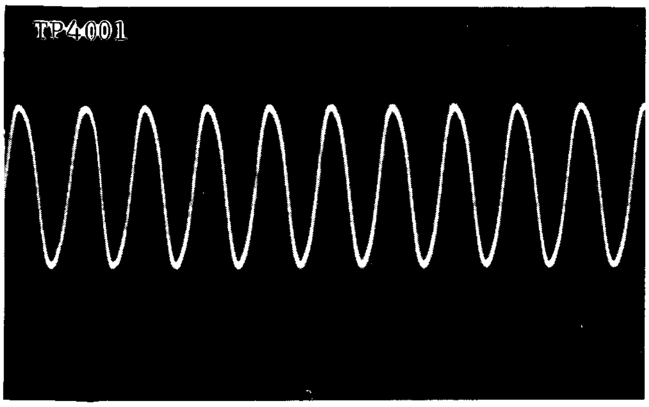


Fig. E31 500mV/1msec. div.

2-4-17. Confirmation of Full-Erase Head Oscillation Level

Test Point: Full Erase Head

1. Place the unit in REC·PLAY mode.
2. Connect the scope to Full Erase Head as shown below.

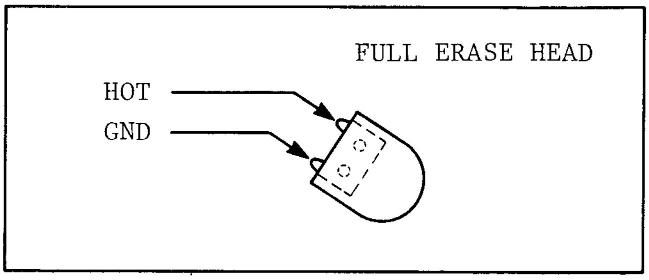


Fig. E32 Full Erase Head

3. Make sure that the oscillation level is more than 30Vp-p.

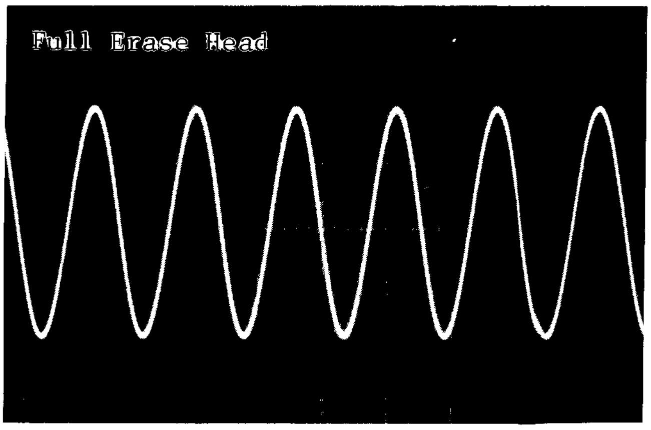


Fig. E33 10V/10μsec. div.

2-5. TIMER SECTION

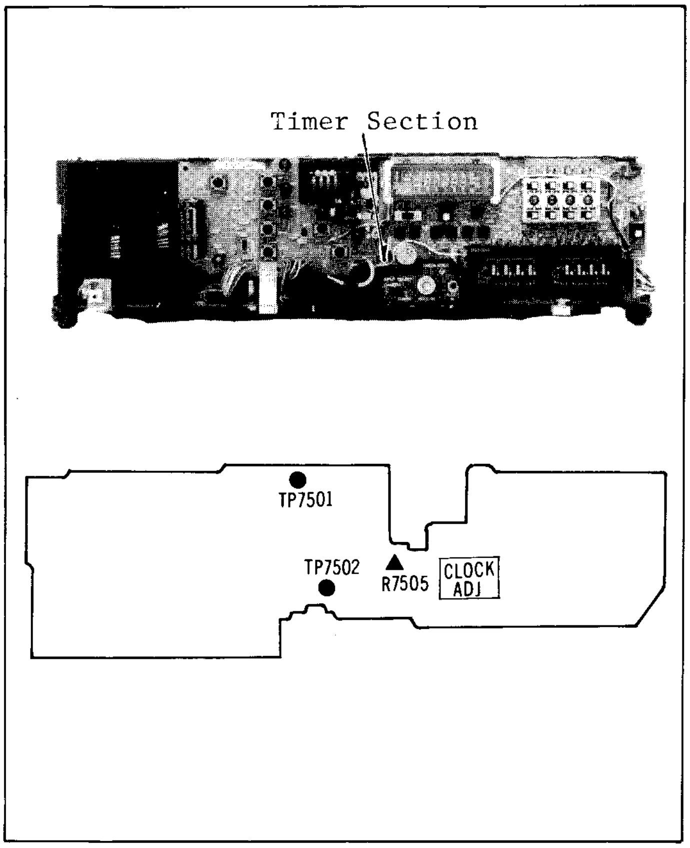

Timer Section
TP7501
TP7502
R7505
CLOCK ADJ

Fig. E-34 Timer Section

2-5-1. Clock Adjustment

Test Points: TP7501 (HOT)
TP7502 (GND)
Adjustment: R7505

1. Set the Mode Selector on the front panel to "CLOCK" and set the time as shown bebow.

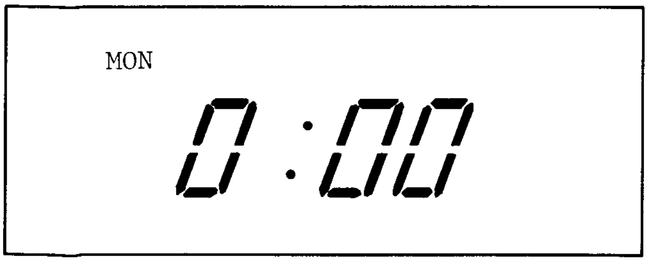


Fig. E35 Timer Display

2. Keep the Mode Selector to "CLOCK" position, and connect the scope to TP7501 (HOT) and TP7502 (GND) through the filter as shown below.

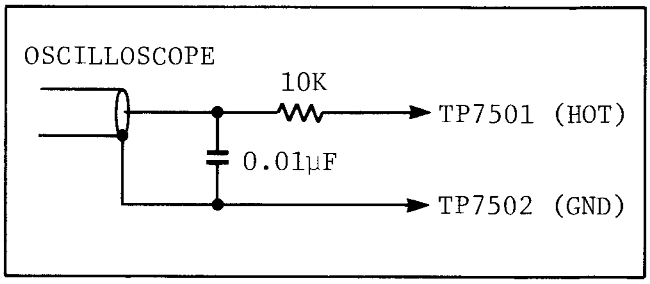

OSCILLOSCOPE
10K
0.01μF
TP7501 (HOT)
TP7502 (GND)

Fig. E36 L.P.F.

3. Adjust R7507 so that the period of "T" becomes 28msec ± 1msec as shown below.

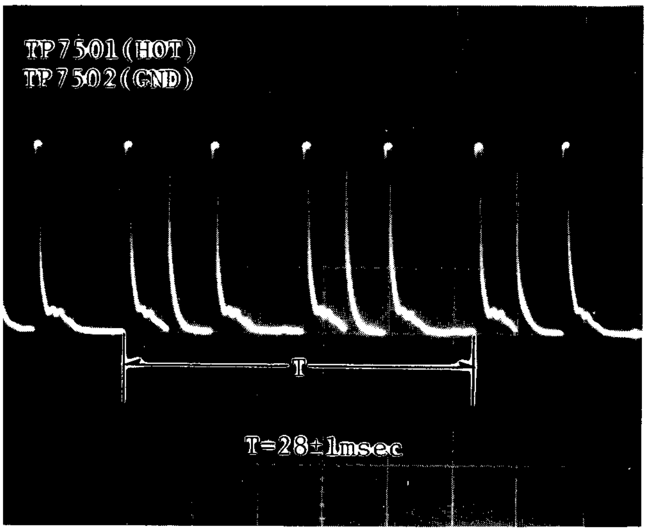


Fig. E37 10V/5msec . div.

2-6. TV DEMODULATOR SECTION

Model NO: NV-333E/EG/EO

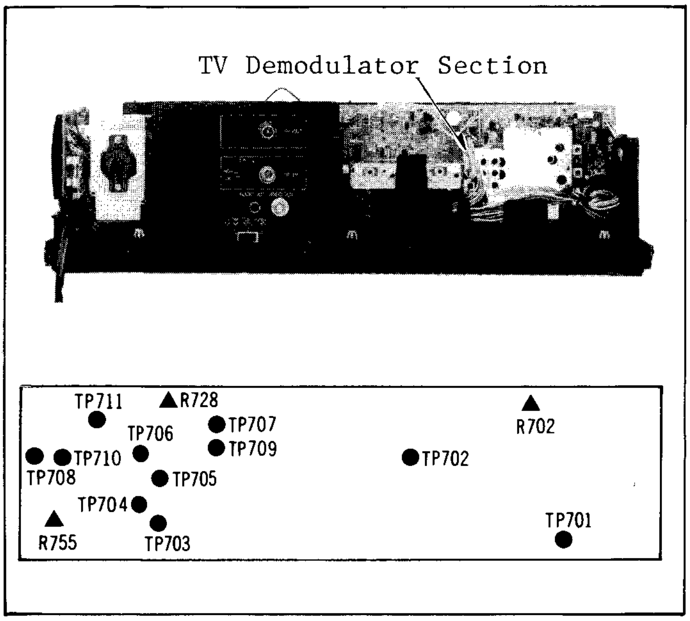

TV Demodulator Section
TP711
R728
TP706
TP707
TP709
TP710
TP708
TP705
TP702
R702
TP704
R755
TP703
TP701

Fig. E38

This section provides complete electrical adjustment procedures which may be required for TV demodulator circuit.

Test Equipment

To make adjustments completely, following equipments are required.

1. VIF Sweep Generator with the Trap Adjustor 38.9MHz
2. SIF Sweep Generator ...... 5.5MHz ± 150kHz
3. CW Oscillator ...... 38.9MHz ± 100kHz
4. Digital Volt Meter
5. Oscilloscope
6. DC Power Supply

2-6-1. VIF Sweep Adjustment

1. Connect the H-Out of the VIF Sweep Generator to the H-In of the scope.
2. Connect the Marker-Out of the VIF Sweep Generator to the Marker-In or Z-terminal of the Scope.
3. Set the Channel Selector to the VHF High position (VH) and turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V DC.
4. Connect the jumper wire between TP701 (RF AGC) and ground.
5. Connect the 100Ω resistor between TP704 and TP705.
6. Connect the scope to TP707.
7. Supply the output of the VIF Sweep Generator to Test Point of the Tuner.

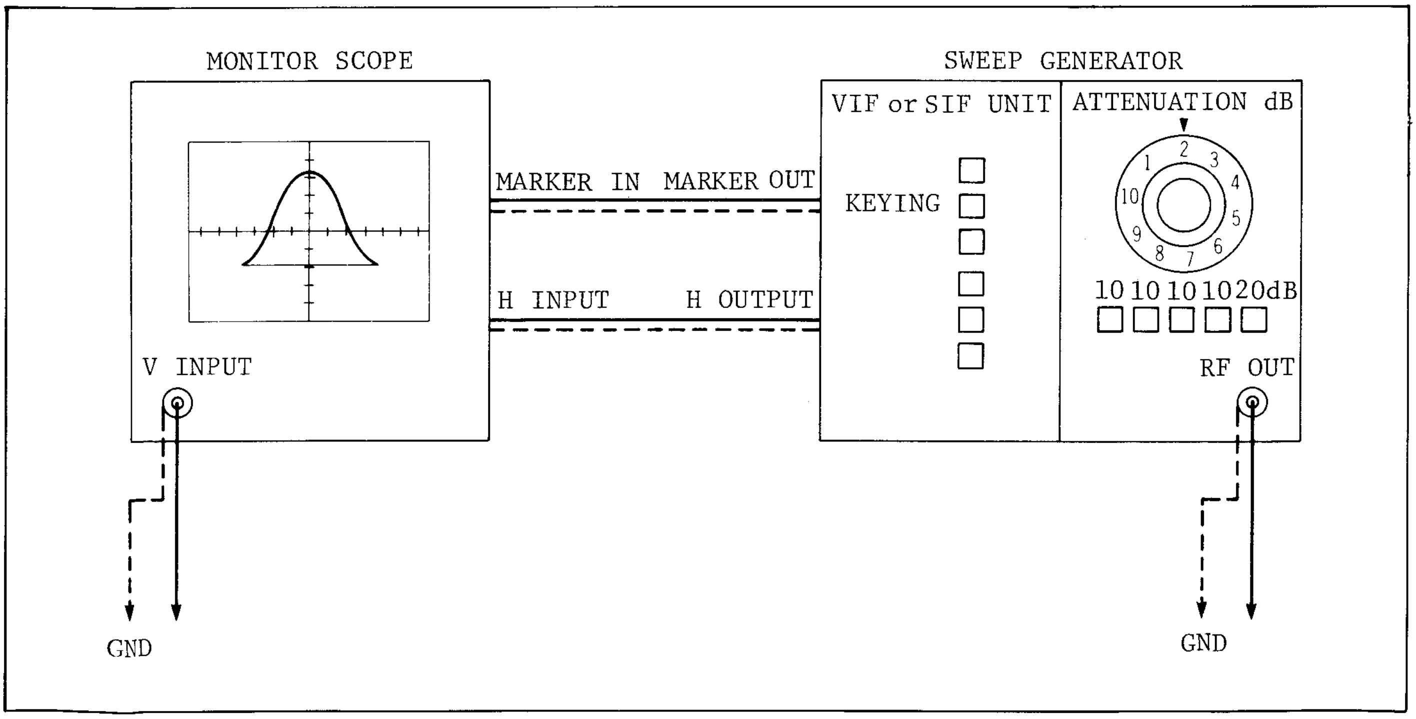

MONITOR SCOPE
MARKER IN
MARKER OUT
H INPUT
H OUTPUT
V INPUT
GND
SWEEP GENERATOR
VIF or SIF UNIT
KEYING
ATTENUATION dB
1
2
3
4
5
6
7
8
9
10
10 10 10 10 20dB
RF OUT
GND

Fig. E39 Connection of Measuring Equipment

8. Adjust the output of the VIF Sweep Generator so that the level of VIF waveform becomes 1.0Vp-p.
9. Release 20dB from the attenuator of the Sweep Generator.
10. Set the DC Power Supply at TP709, and supply the Voltage so that the level of VIF waveform becomes 1.0 Vp-p.
11. Adjust T702 so that the attenuation of the 33.4MHz trap becomes maximum.
12. Adjust T701 (a) so that the attenuation of the 40.4MHz trap becomes maximum.
13. Adjust the Tuner Converter Coil, IF AMP Coil T700 and HLB Transformer T701 so that the sweep output waveform becomes as follows.

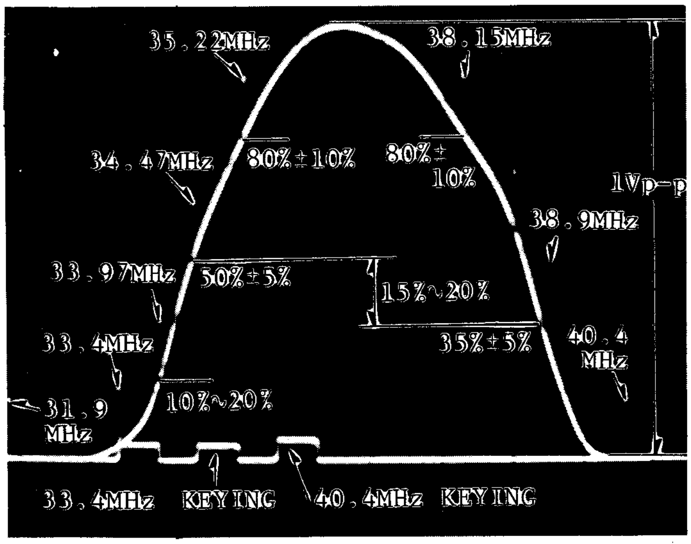
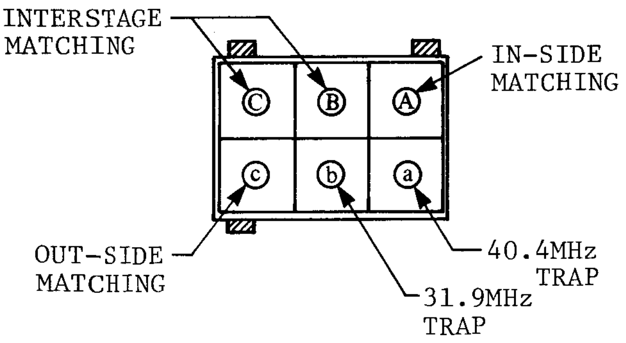


Fig. E40 VIF Waveform



* B coil for Interstage Matching is preset, so the adjustment is not required normally.

Fig. E41 HLB Transformer T701

2-6-2. Selective Coil Adjustment

1. Connection of measuring equipments is the same as in the VIF Sweep Adjustment.
2. Connect the output of the VIF Sweep Generator to TP703.
3. Connect the scope to TP707.
4. Supply the DC Voltage (6.0 ~ 6.5V) to TP709 so that the noise level on the sweep waveform becomes minimum.
5. Turn T704 2 turns clockwise or counterclockwise.
6. Adjust the output of the VIF Sweep Generator so that the sweep wave becomes 2Vp-p.
7. Adjust T703 so that the marker position at 38.9MHz is the peak of the wave as shown below.

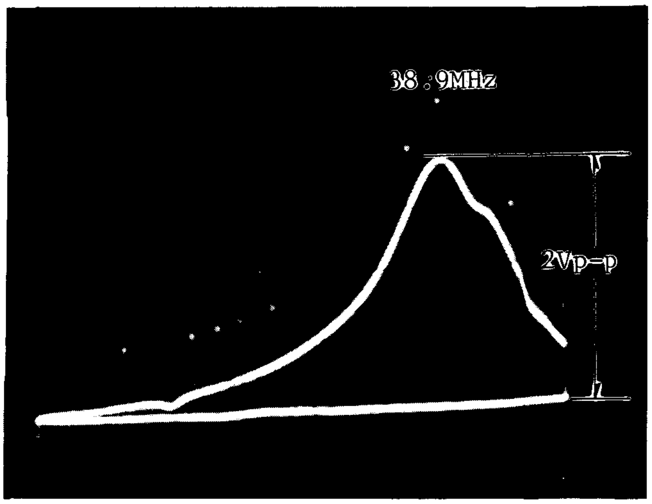


Fig. E42

8. After above adjustment, adjust T704 so that the marker position at 38.9 MHz is as shown below.

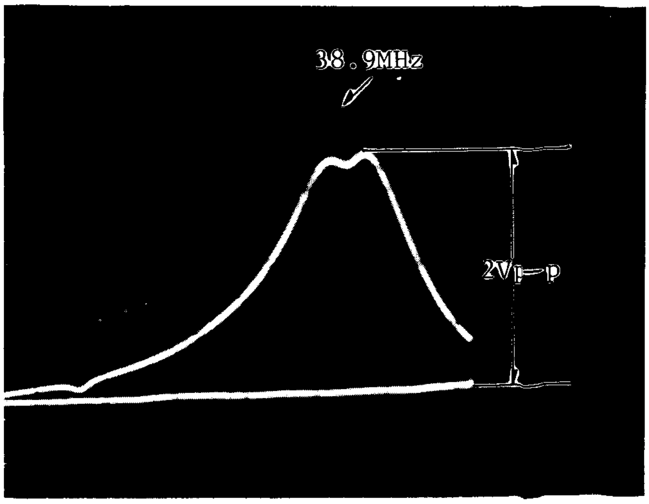
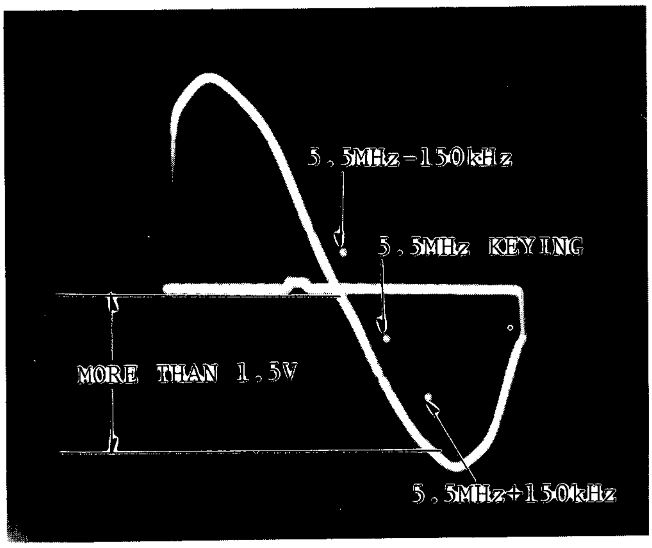


Fig. E43

2-6-3. SIF Sweep Adjustment

1. Connect the H-Out of the SIF Sweep Generator to the H-In of the scope.
2. Connect the Marker-Out of the SIF Sweep Generator to the Marker-In or Z-Terminal of the scope.
3. Connect the oscilloscope to the output of the SIF Sweep Generator and set the sweep output to 700mVp-p.
4. Connect the output of the SIF Sweep Generator to TP706.
5. Connect the scope to TP710.
6. Turn R755 fully clockwise.
7. Adjust T752 so that the attenuation of 5.5MHz trap becomes maximum.
8. Adjust T751 for maximum peak-to-peak amplitude of response "S" curve as shown below.



SIF W form
Fig. E44

9. Confirm that the level between the 150kHz marker position is more than 1.5Vp-p.

2-6-4. AFC Adjustment

1. Set the CW oscillator so that the 38.9MHz CW signal becomes 1Vp-p.
2. Supply this signal to the Tuner Test Point.
3. Set the channel Selector to the VHF High Position (VH) and turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V.
4. Connect the Digital Voltmeter to the Tuner AFC terminal TP702.
5. Confirm the reading "A" of the Digital Voltmeter is between 6.4V and 6.8V, when the AFC switch is off.
6. Set the AFC switch is "ON".
7. Adjust T704 so that the level at the Tuner AFC terminal TP702 becomes "A" ± 0.3V.
8. Change the frequency of the CW oscillator ±100kHz, centered at 38.9MHz and confirm that the difference of the AFC voltage is more than ±3V.

2-6-5. Confirmation of Video Level and Adjustment of Burst Level

1. Supply the PAL Standard Colour Bar signal to RF In terminal and tune this signal and set the AFC SW.
2. Connect the oscilloscope to TP711.
3. Confirm that the video level at TP711 is 1.0 ± 0.2Vp-p.
4. Adjust resistor R728 so that the burst level becomes 240 ± 10mVp-p as shown below.

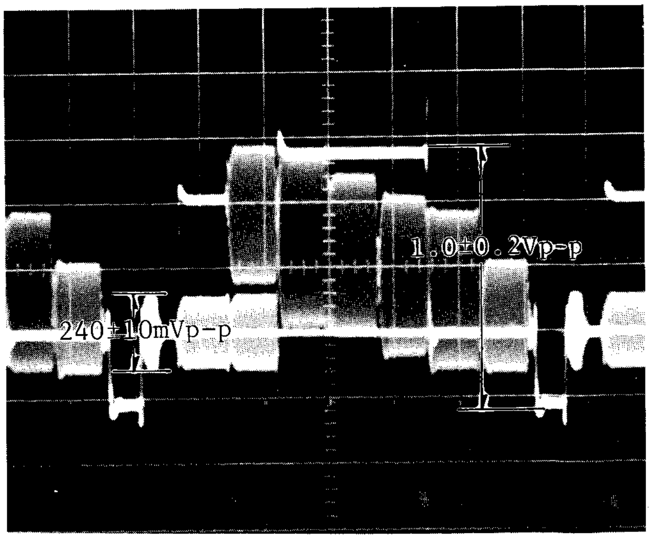


Fig. E45

2-7. TV DEMODULATOR SECTION

Model NO: NV-333B

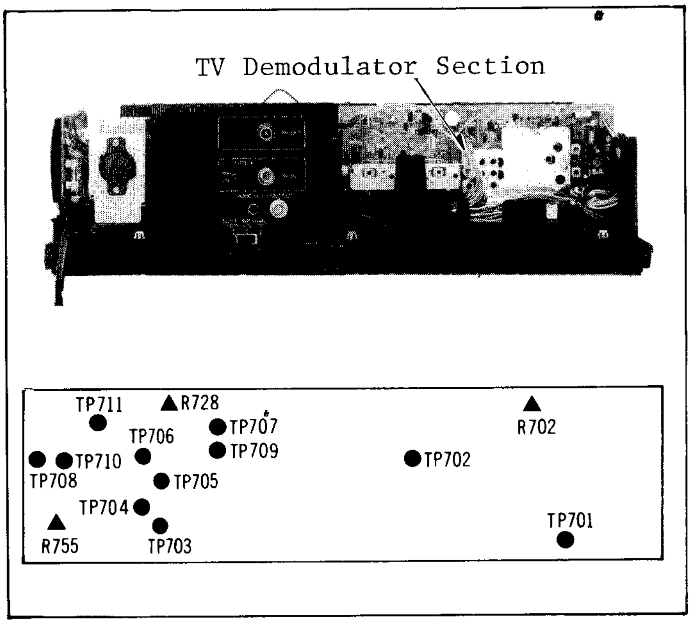

TV Demodulator Section
TP711
R728
TP706
TP707
TP709
TP710
TP708
TP705
TP704
R755
TP703
TP702
R702
TP701

Fig.E46

This section provides complete electrical adjustment procedures which may be required for TV demodulator circuit.

Test Equipment

To make adjustments completely, following equipments are required.

1. VIF Sweep Generator with the Trap Adjustor 39.5MHz
2. SIF Sweep Generator ...... 6.0MHz ± 150kHz
3. CW Oscillator ...... 39.5MHz ± 100kHz
4. Digital Volt Meter
5. Oscilloscope
6. DC Power Supply

2-7-1. VIF Sweep Adjustment

1. Connect the H-Out of the VIF Sweep Generator to the H-In of the scope.
2. Connect the Marker-Out of the VIF Sweep Generator to the Marker-In or Z-terminal of the Scope.
3. Turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V DC.
4. Connect the jumper wire between TP701 (RF AGC) and ground.
5. Connect the 100Ω resistor between TP704 and TP705.
6. Connect the scope to TP707.
7. Supply the output of the VIF Sweep Generator to Test Point of the Tuner.

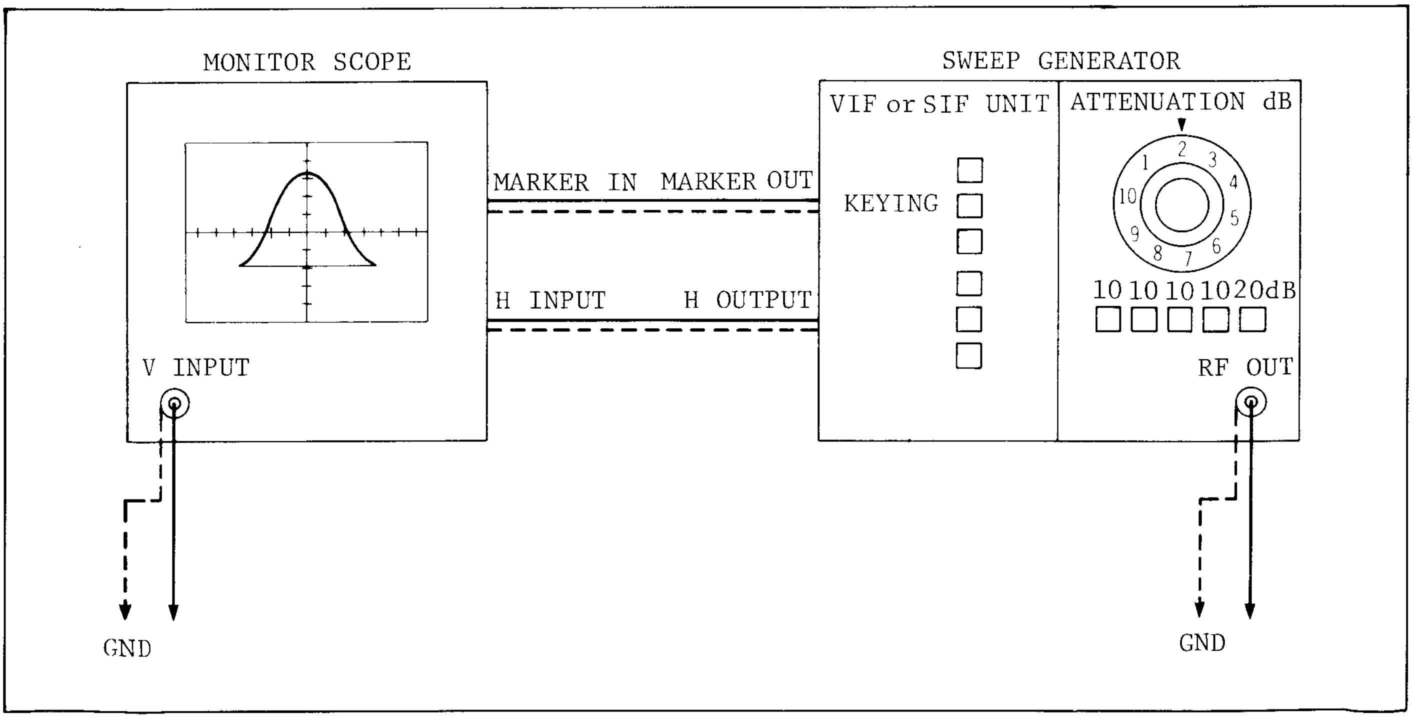

MONITOR SCOPE
SWEEP GENERATOR
VIF or SIF UNIT
ATTENUATION dB
MARKER IN
MARKER OUT
KEYING
1
2
3
4
5
6
7
8
9
10
10 10 10 10 20dB
H INPUT
H OUTPUT
V INPUT
RF OUT
GND
GND

Fig. E47 Connection of Measuring Equipment

8. Adjust the output of the VIF Sweep Generator so that the level of VIF waveform becomes 1.0Vp-p.
9. Release 20dB from the attenuator of the Sweep Generator.
10. Set the DC Power Supply at TP709, and supply the Voltage so that the level of VIF waveform becomes 1.0 Vp-p.
11. Adjust T702 so that the attenuation of the 33.5MHz trap becomes maximum.
12. Adjust T701 (a) so that the attenuation of the 41.5MHz trp becomes maximum.
13. Adjust the Tuner Converter Coil, IF AMP Coil T700 and HLB Transformer T701 so that the sweep output waveform becomes as follows.

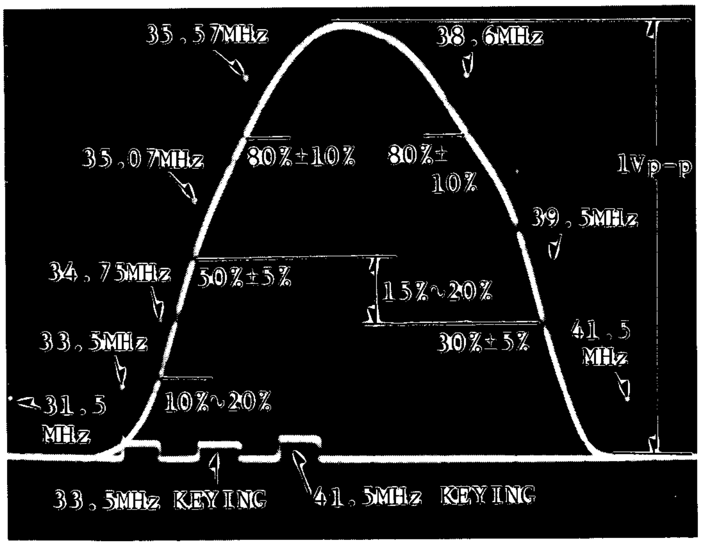
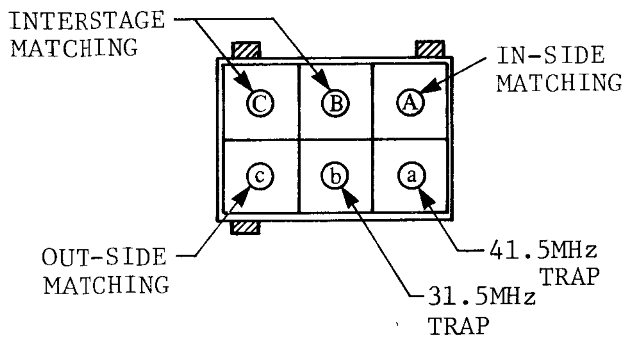


Fig.E48 VIF Waveform



* B coil for Interstage Matching is preset, so the adjustment is not required normally.

Fig. E49 HLB Transformer T701

2-6-2. Selective Coil Adjustment

1. Connection of measuring equipments is the same as in the VIF Sweep Adjustment.
2. Connect the output of the VIF Sweep Generator to TP703.
3. Connect the scope to TP707.
4. Supply the DC Voltage (6.0 ~ 6.5V) to TP709 so that the noise level on the sweep waveform becomes minimum.
5. Turn T704 2 turns clockwise or counterclockwise.
6. Adjust the output of the VIF Sweep Generator so that the sweep wave becomes 2Vp-p.
7. Adjust T703 so that the marker position at 39.5MHz is the peak of the wave as shown below.

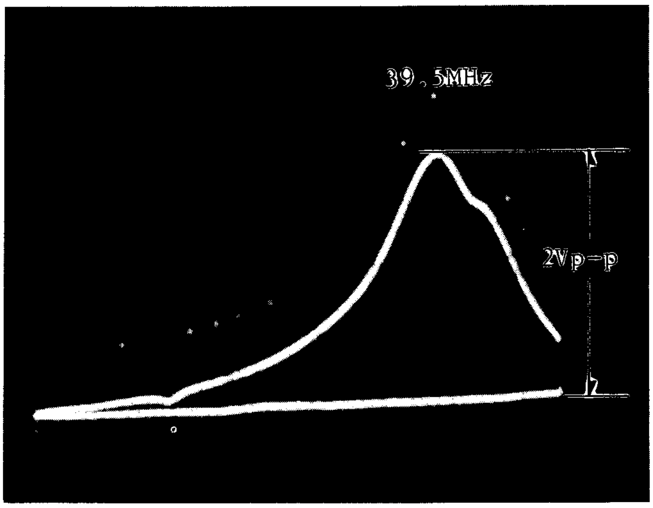


Fig. E50

8. After above adjustment, adjust T704 so that the marker position at 39.5 MHz is as shown below.

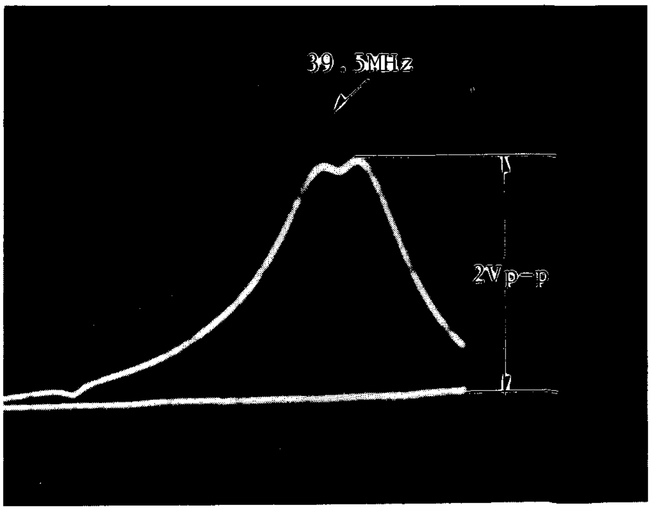
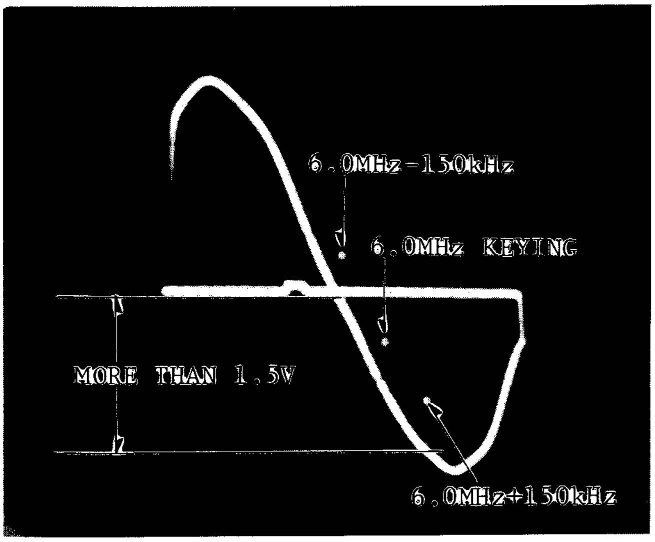


Fig. E51

2-7-3. SIF Sweep Adjustment

1. Connect the H-Out of the SIF Sweep Generator to the H-In of the scope.
2. Connect the Marker-Out of the SIF Sweep Generator to the Marker-In or Z-Terminal of the scope.
3. Connect the oscilloscope to the output of the SIF Sweep Generator and set the sweep output to 700mVp-p.
4. Connect the output of the SIF Sweep Generator to TP706.
5. Connect the scope to TP710.
6. Turn R755 fully clockwise.
7. Adjust T752 so that the attenuation of 6.0MHz trap becomes maximum.
8. Adjust T751 for maximum peak-to-peak amplitude of response "S" curve as shown below.



SIF Wave form
Fig. E52

9. Confirm that the level between the 150kHz marker position is more than 1.5Vp-p.

2-7-4. AFC Adjustment

1. Set the CW oscillator so that the 39.5MHz CW signal becomes 1Vp-p.
2. Supply this signal to the Tuner Test Point.
3. Turn the tuning volume so that the voltage at BT terminal of the Tuner becomes 15 ± 1V.
4. Connect the Digital Voltmeter to the Tuner AFC terminal TP702.
5. Confirm the reading "A" of the Digital Voltmeter is between 6.4V and 6.8V, when the AFC switch is off.
6. Set the AFC switch is "ON".
7. Adjust T704 so that the level at the Tuner AFC terminal TP702 becomes "A" ± 0.3V.
8. Change the frequency of the CW oscillator ±100kHz, centered at 39.5MHz and confirm that the difference of the AFC voltage is more than ±3V.

2-7-5. Confirmation of Video Level and Adjustment of Burst Level

1. Supply the PAL Standard Colour Bar signal to RF In terminal and tune this signal and set the AFC SW.
2. Connect the oscilloscope to TP711.
3. Confirm that the video level at TP711 is 1.0 ± 0.2Vp-p.
4. Adjust resistor R728 so that the burst level becomes 240 ± 10mVp-p as shown below.

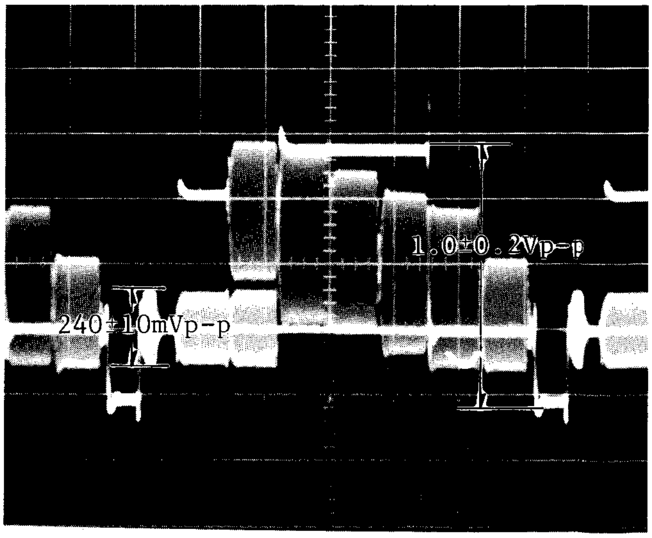
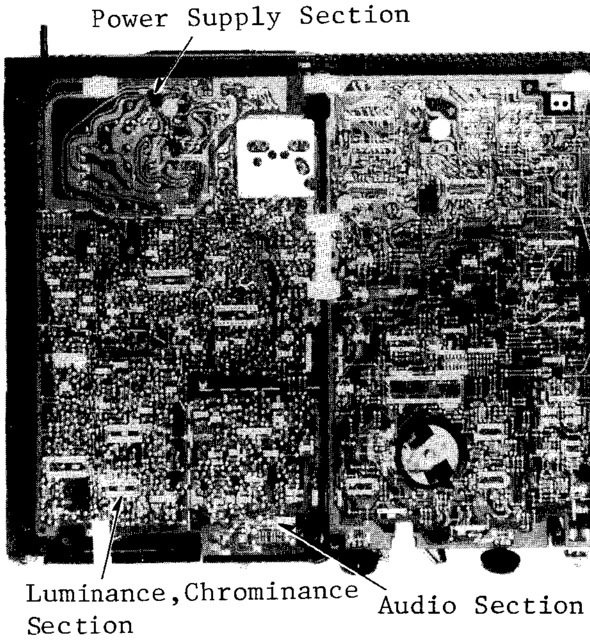


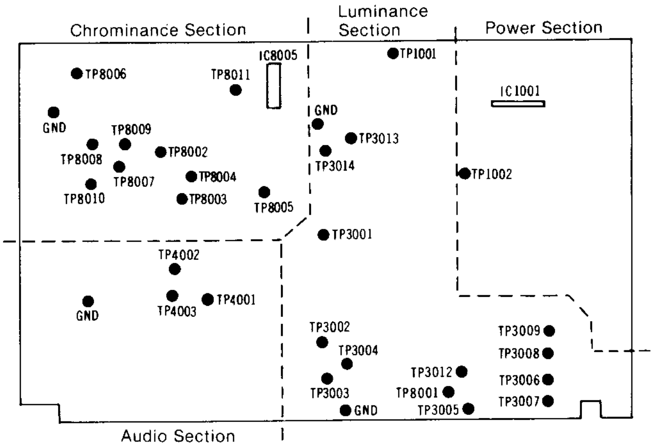
Fig. E53

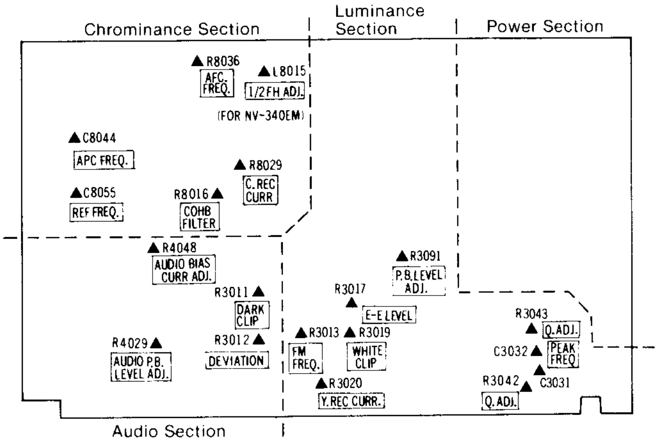
LOCATION OF TEST POINTS & CONTROLS

POWER SUPPLY, LUMINANCE, CHROMINANCE & AUDIO C.B.A.

VEP03133A(NV-333E/EG/EO),VEP03133B(NV-333EG)

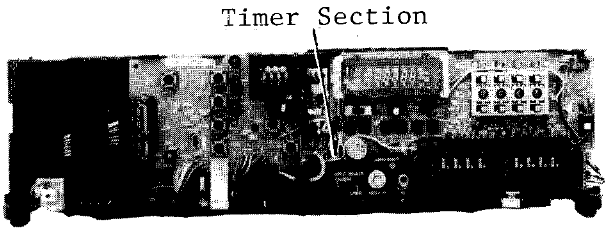

Power Supply Section
Luminance,Chrominance Section
Audio Section

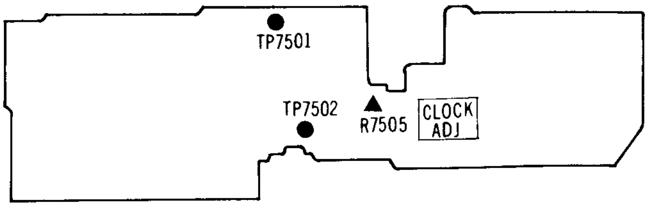

Chrominance Section
Luminance Section
Power Section
IC8005
TP1001
TP8006
TP8011
IC1001
GND
GND
TP8009
TP3013
TP8002
TP8008
TP3014
TP8004
TP1002
TP8007
TP8010
TP8003
TP8005
TP3001
TP4002
TP4001
GND
TP4003
TP3002
TP3009
TP3004
TP3008
TP3012
TP3006
TP3003
TP8001
TP3007
GND
TP3005
Audio Section


Chrominance Section
Luminance Section
Power Section
R8036
AFC FREQ.
L8015
1/2FH ADJ.
(FOR NV-340EM)
C8044
APC FREQ.
R8029
C.REC CURR
C8055
REF FREQ.
R8016
COHB FILTER
R4048
AUDIO BIAS CURR ADJ.
R3091
P.B.LEVEL ADJ.
R3011
R3017
DARK CLIP
E-E LEVEL
R3043
R3013
R3019
Q.ADJ.
R4029
R3012
C3032
PEAK FREQ.
AUDIO P.B. LEVEL ADJ.
DEVIATION
FM FREQ.
WHITE CLIP
R3042
C3031
R3020
Y.REC CURR.
Q.ADJ.
Audio Section

FRONT BOARD C.B.A..

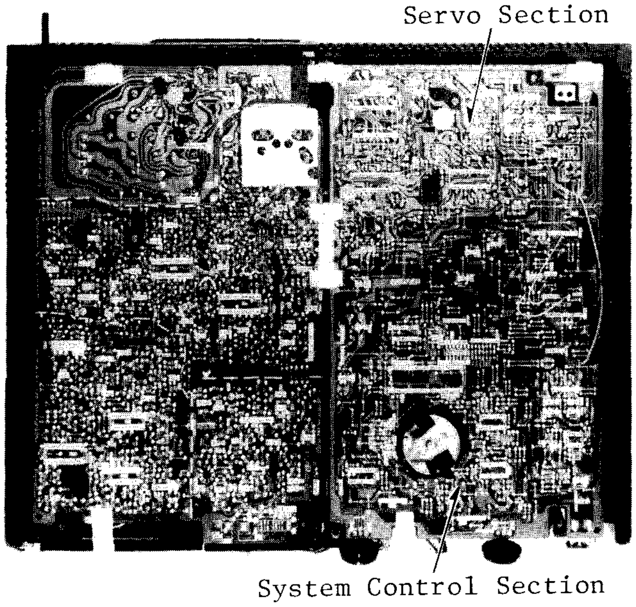
VEP07124B(NV-333E/EG),VEP07124C(NV-333EO),VEP07124D(NV-333B)

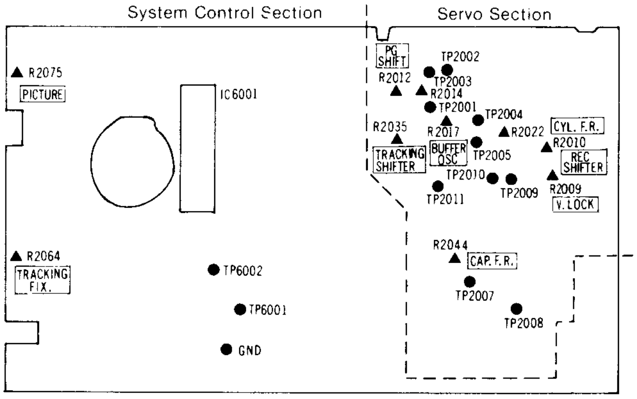

Timer Section


TP7501
TP7502
R7505
CLOCK ADJ

SERVO & SYSTEM CONTROL C.B.A.

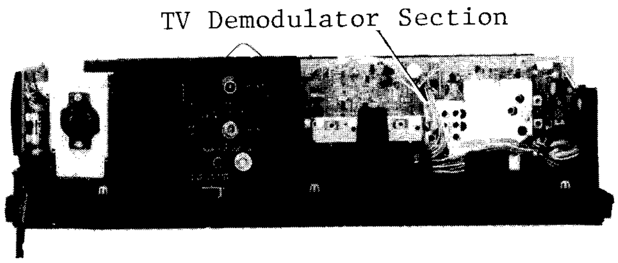
VEP02143A

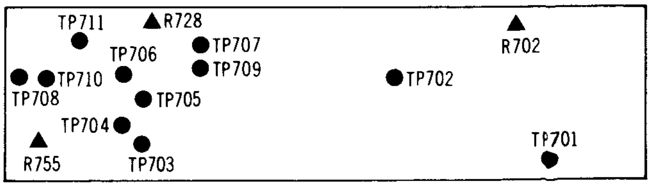

Servo Section
System Control Section


System Control Section
Servo Section
R2075
PICTURE
IC6001
R2064
TRACKING FIX.
TP6002
TP6001
GND
PG SHIFT
TP2002
R2012
TP2003
R2014
TP2001
TP2004
R2035
R2017
R2022
CYL. F.R.
TRACKING SHIFTER
BUFFER OSC
TP2005
R2010
REC SHIFTER
TP2010
TP2009
R2009
TP2011
V.LOCK
R2044
CAP. F.R.
TP2007
TP2008

TV DEMODULATOR C.B.A.

VEP07123A(NV-333E/EG),VEP07123B(NV-333B) ,VEP07123C(NV-333EO)


TV Demodulator Section


TP711
R728
TP707
R702
TP706
TP709
TP710
TP702
TP708
TP705
TP704
TP701
R755
TP703

Panasonic

MATSUSHITA ELECTRIC

Printed in Japan

ORDER NO. VRD-8204-080

Service Manual

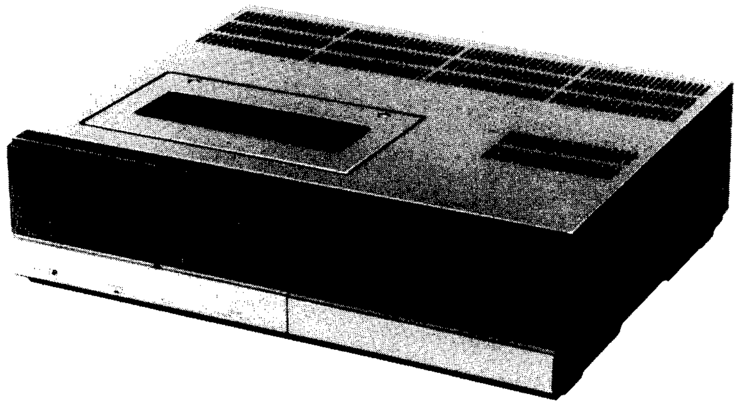
Video Cassette Recorder

Panasonic VHS

NV-333 -E -EG -B -EO

Vol. 3

Block Diagrams
Schematic Diagrams



SPECIFICATIONS

Power Source:	220V AC 50/60Hz (NV-333-E, EG, EO) 240V AC 50/60Hz (NV-333B)
Power Consumption:	Approx. 36 watts (NV-333-E, EG, EO) Approx. 39 watts (NV-333-B)
Television System:	CCIR: 625 lines, 50 fields PAL colour signal (NV-333-E/-B/-EO) CCIR: 625 lines, 50 fields PAL/DDR SECAM colour signal (NV-333-EG,)
Video Recording System:	2 rotary heads, helical scanning system Luminance: FM azimuth recording Colour signal: converted subscarrier phase shift recording
Audio Track:	1 track
Tape Format:	Tape width 12.7mm high density tape
Tape Speed:	23.39mm/s
Record/Playback Time:	240 min. with NV-E240
FF/REW Time:	Less than 6.5 min. with NV-E240
Heads:	Video: 2 rotary heads Audio/Control: 1 stationary head Erase: 1 full track erase
Input Level:	Video: VIDEO IN connector (BNC) 1.0Vp-p, 75Ω terminate Audio: LINE IN jack More than −20dB, more than 50kΩ
Output Level:	Video: VIDEO OUT connector (BNC) 1.0Vp-p, 75Ω terminate Audio: LINE OUT jack −6dB, less than 1kΩ RF Modulated: UHF channel 36 ± 4CH 75Ω terminate
Weight:	8.4kg
Dimensions:	430(W) × 125(H) × 358(D)mm
Accessory Supplied:	1 pc. DIN-RF Cable VJA0176 1 pc. Video Cassette Tape NV-E30 (NV-333-E/EG/EO) 1 pc. Video Cassette Tape NV-E60 (NV-333-B)
Optional Accessories:	Video cassette tape: NV-E240 Approx. 344m, 240 min. NV-E180 Approx. 258m, 180 min. NV-E120 Approx. 174m, 120 min. NV-E60 Approx. 88m, 60 min. Video Camera, WV-2600E,, WV-3000E, WV-3200E Remote Control Unit, NV-A33E

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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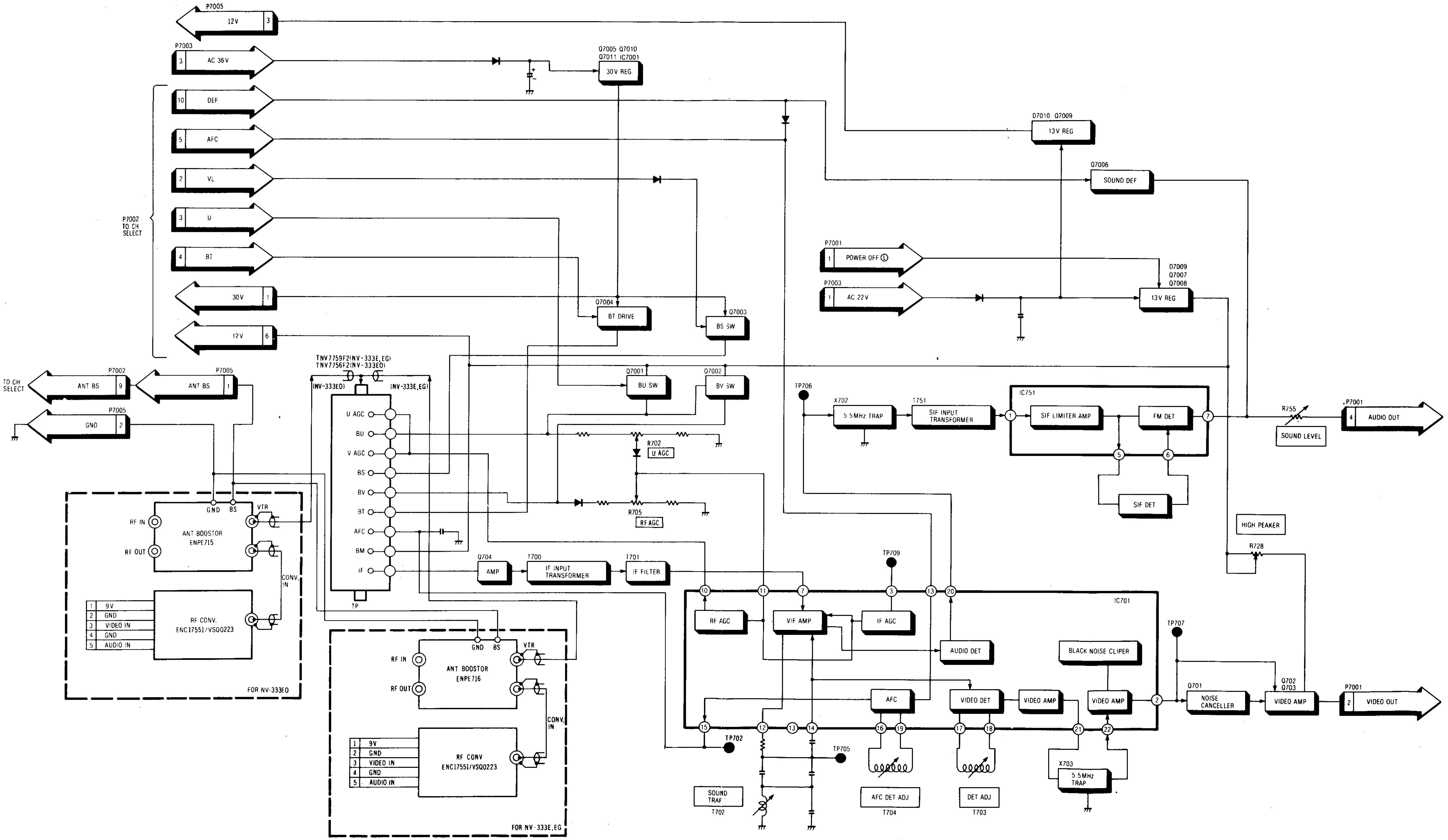
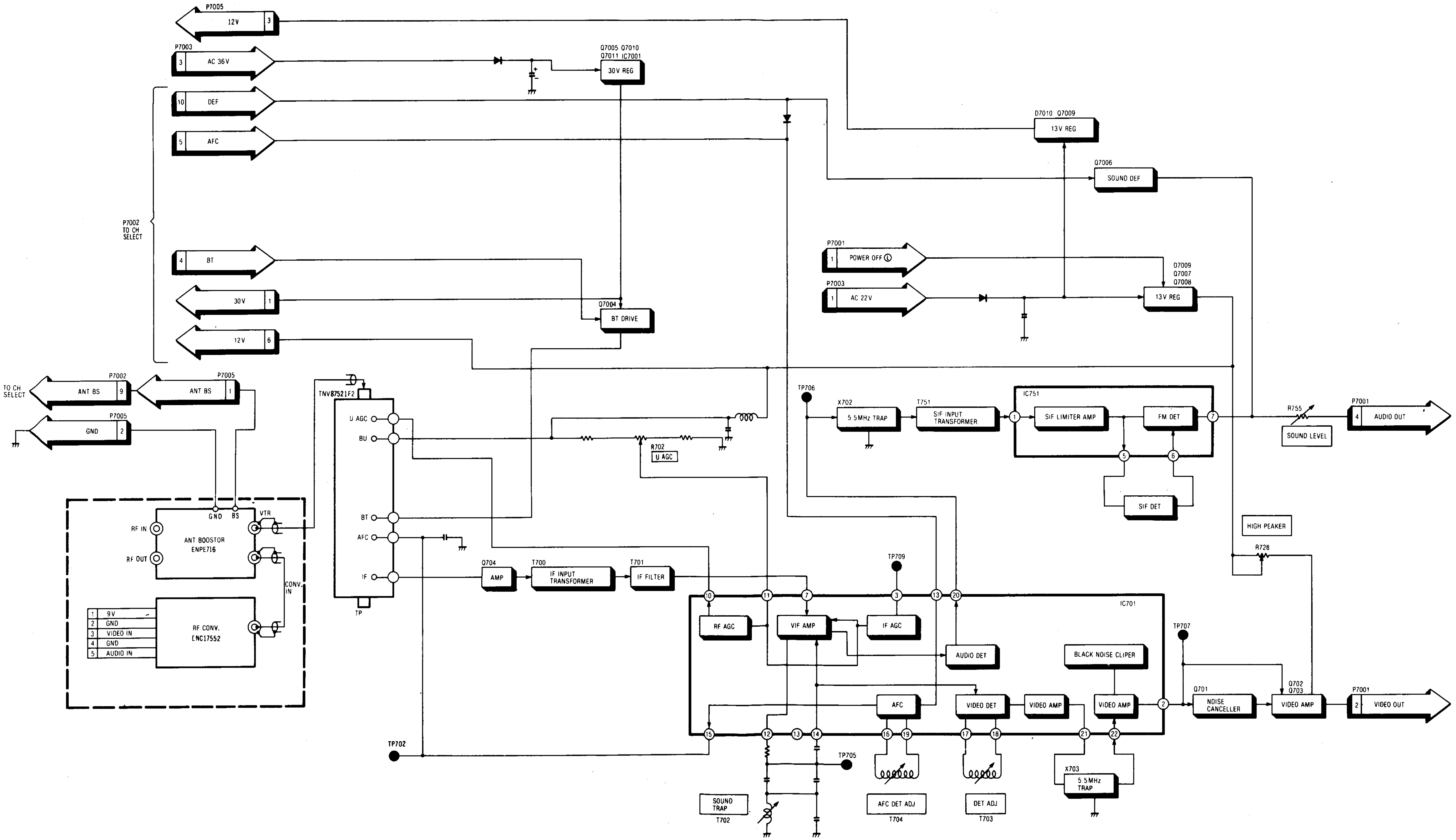
TV DEMODULATOR BLOCK DIAGRAM

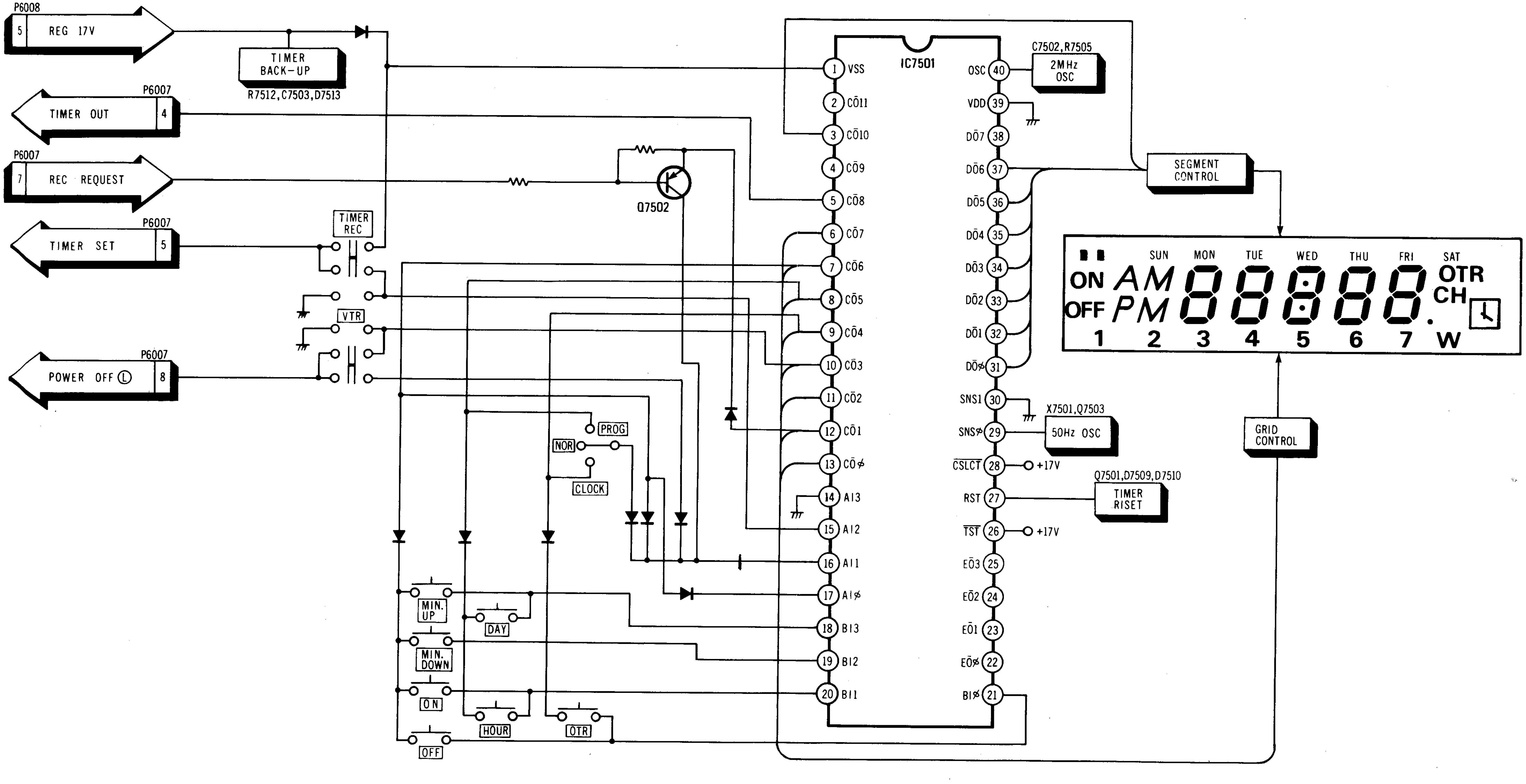


P7005
12V
3
P7003
AC 36V
Q7005 Q7010
Q7011 IC7001
30V REG
10 DEF
5 AFC
2 VL
3 U
4 BT
P7002 TO CH SELECT
30V
1
12V
6
Q7010 Q7009
13V REG
Q7006
SOUND DEF
P7001
POWER OFF ⓛ
P7003
AC 22V
D7009
Q7007
Q7008
13V REG
Q7004
BT DRIVE
Q7003
BS SW
TO CH SELECT
P7002
ANT BS
9
P7005
ANT BS
1
P7005
GND
2
TNV7759F2(NV-333E,EG)
TNV7756F2(NV-333EO)
(NV-333EO)
(NV-333E,EG)
U AGC
BU
V AGC
BS
BV
BT
AFC
BM
IF
TP
Q7001
BU SW
Q7002
BV SW
R702
U AGC
R705
RF AGC
TP706
X702
5.5MHz TRAP
T751
SIF INPUT TRANSFORMER
IC751
SIF LIMITER AMP
FM DET
SIF DET
R755
SOUND LEVEL
P7001
4 AUDIO OUT
HIGH PEAKER
R728
GND
BS
VTR
RF IN
RF OUT
ANT BOOSTOR
ENPE715
CONV. IN
1 9V
2 GND
3 VIDEO IN
4 GND
5 AUDIO IN
RF CONV.
ENC17551/VSQ0223
FOR NV-333EO
Q704
AMP
T700
IF INPUT TRANSFORMER
T701
IF FILTER
TP709
IC701
RF AGC
VIF AMP
IF AGC
AUDIO DET
BLACK NOISE CLIPER
AFC
VIDEO DET
VIDEO AMP
VIDEO AMP
TP707
Q701
NOISE CANCELLER
Q702
Q703
VIDEO AMP
P7001
2 VIDEO OUT
TP702
TP705
SOUND TRAP
T702
AFC DET ADJ
T704
DET ADJ
T703
X703
5.5MHz TRAP
GND
BS
VTR
RF IN
RF OUT
ANT BOOSTOR
ENPE716
CONV. IN
1 9V
2 GND
3 VIDEO IN
4 GND
5 AUDIO IN
RF CONV
ENC17551/VSQ0223
FOR NV-333E,EG

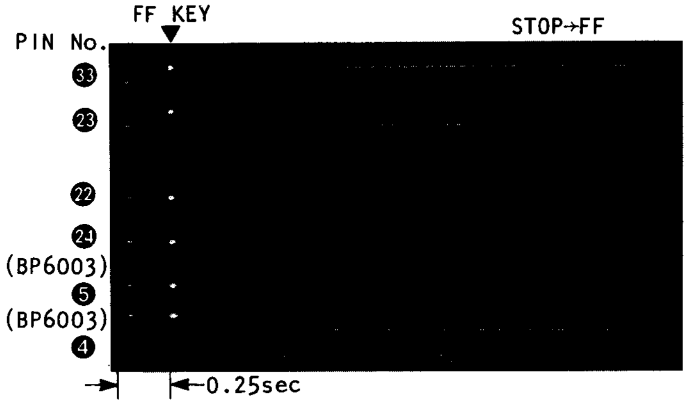
TV DEMODULATOR BLOCK DIAGRAM

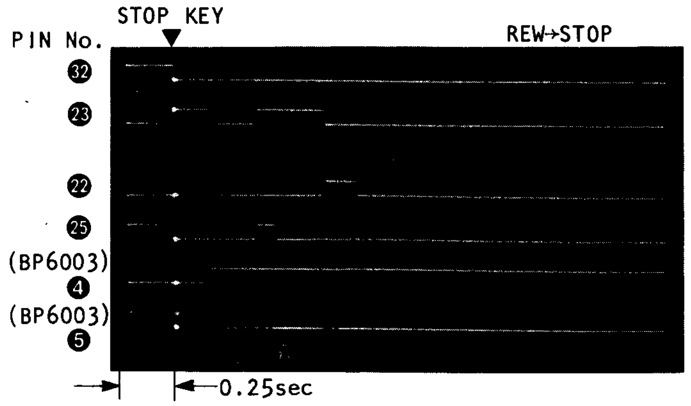

P7005
12V
3
P7003
3
AC 36V
Q7005 Q7010
Q7011 IC7001
30V REG
10
DEF
5
AFC
D7010 Q7009
13V REG
Q7006
SOUND DEF
P7002
TO CH
SELECT
4
BT
30V
1
Q7004
BT DRIVE
12V
6
P7001
1
POWER OFF ①
P7003
1
AC 22V
Q7009
Q7007
Q7008
13V REG
TO CH
SELECT
P7002
ANT BS
9
P7005
ANT BS
1
P7005
GND
2
TNV87521F2
U AGC
BU
BT
AFC
IF
TP
R702
U AGC
TP706
X702
5.5MHz TRAP
T751
SIF INPUT
TRANSFORMER
IC751
1
SIF LIMITER AMP
FM DET
7
5
6
SIF DET
R755
SOUND LEVEL
P7001
4
AUDIO OUT
GND
BS
VTR
RF IN
ANT BOOSTOR
ENPE716
RF OUT
CONV.
IN
1 9V
2 GND
3 VIDEO IN
4 GND
5 AUDIO IN
RF CONV.
ENC17552
Q704
AMP
T700
IF INPUT
TRANSFORMER
T701
IF FILTER
TP709
HIGH PEAKER
R728
10
11
7
3
13
20
IC701
RF AGC
VIF AMP
IF AGC
AUDIO DET
BLACK NOISE CLIPER
TP707
AFC
VIDEO DET
VIDEO AMP
VIDEO AMP
2
Q701
NOISE
CANCELLER
Q702
Q703
VIDEO AMP
P7001
2
VIDEO OUT
15
12
13
14
16
19
17
18
21
22
TP702
TP705
SOUND
TRAP
T702
AFC DET ADJ
T704
DET ADJ
T703
X703
5.5MHz
TRAP

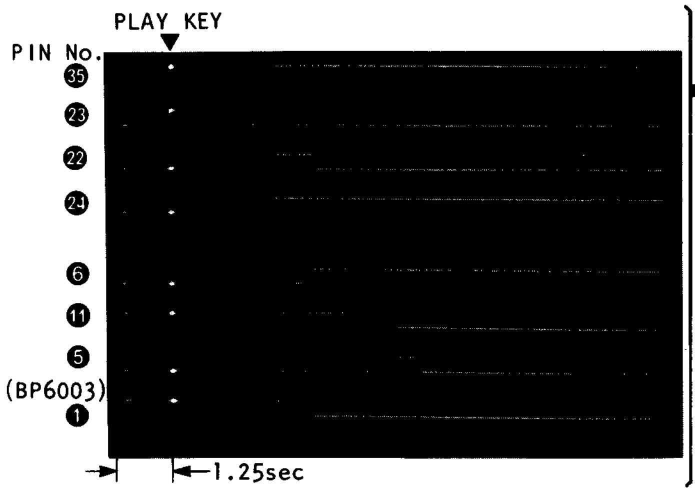
PROGRAMME TIMER BLOCK DIAGRAM

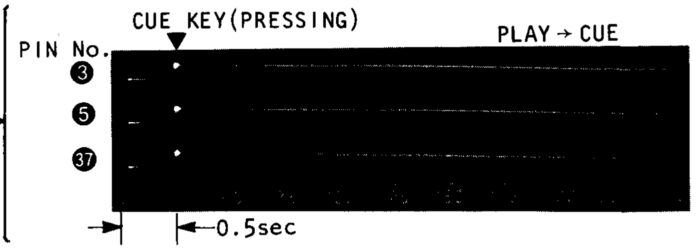

P6008
5 REG 17V
TIMER BACK-UP
R7512,C7503,D7513
P6007
TIMER OUT 4
P6007
7 REC REQUEST
Q7502
P6007
TIMER SET 5
TIMER REC
VTR
P6007
POWER OFF Ⓛ 8
PROG
NOR
CLOCK
MIN. UP
DAY
MIN. DOWN
ON
HOUR
OTR
OFF
IC7501
1 VSS
2 CŌ11
3 CŌ10
4 CŌ9
5 CŌ8
6 CŌ7
7 CŌ6
8 CŌ5
9 CŌ4
10 CŌ3
11 CŌ2
12 CŌ1
13 CŌø
14 AI3
15 AI2
16 AI1
17 AIø
18 BI3
19 BI2
20 BI1
OSC 40
VDD 39
DŌ7 38
DŌ6 37
DŌ5 36
DŌ4 35
DŌ3 34
DŌ2 33
DŌ1 32
DŌø 31
SNS1 30
SNSø 29
CSLCT 28
RST 27
TST 26
EŌ3 25
EŌ2 24
EŌ1 23
EŌø 22
BIø 21
C7502,R7505
2MHz OSC
SEGMENT CONTROL
X7501,Q7503
50Hz OSC
+17V
Q7501,D7509,D7510
TIMER RISET
+17V
GRID CONTROL
SUN MON TUE WED THU FRI SAT
ON AM
OFF PM
88888.
OTR
CH
1 2 3 4 5 6 7 W

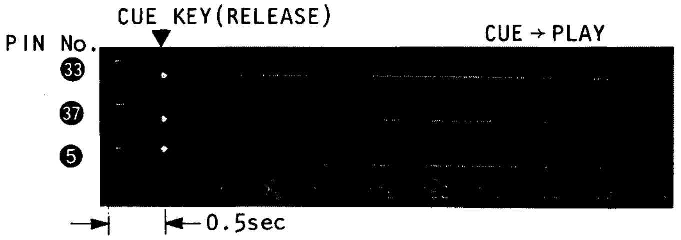
MICROPROCESSOR (IC6001: MN1405VKF) MODE BY MODE TIMING CHART

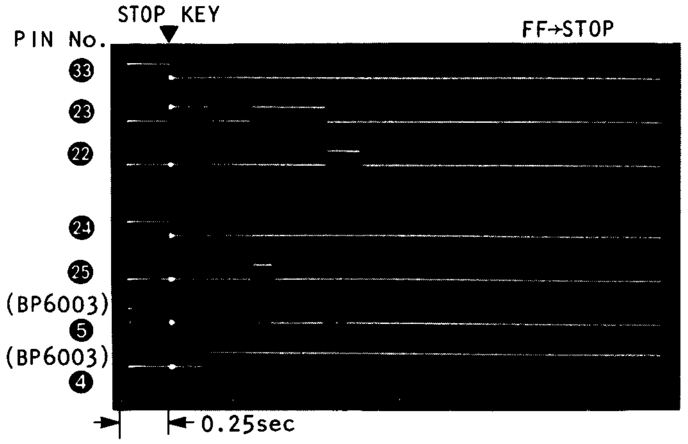


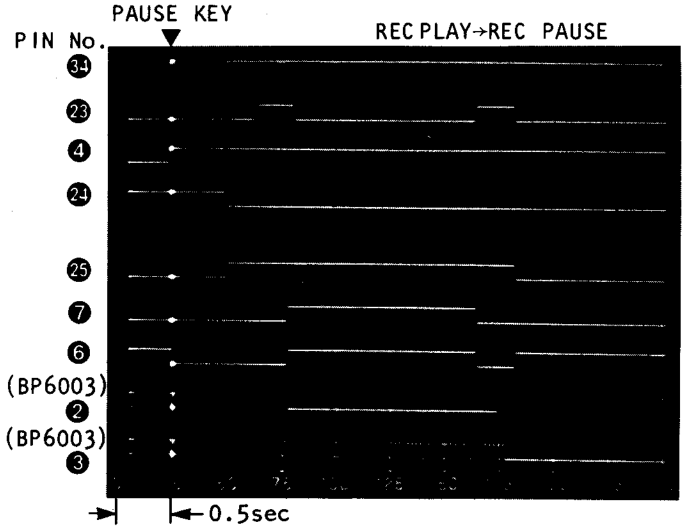


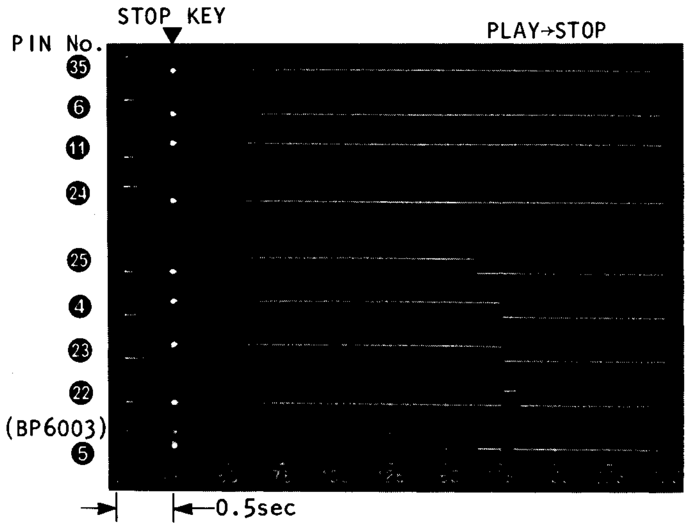


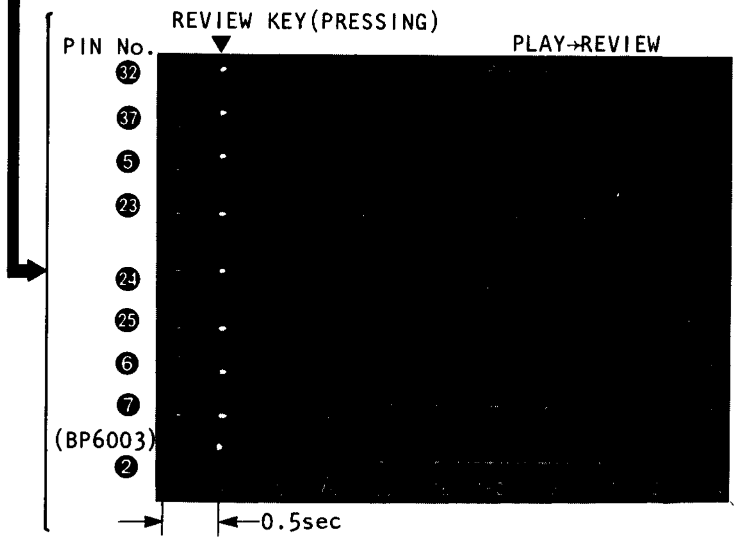


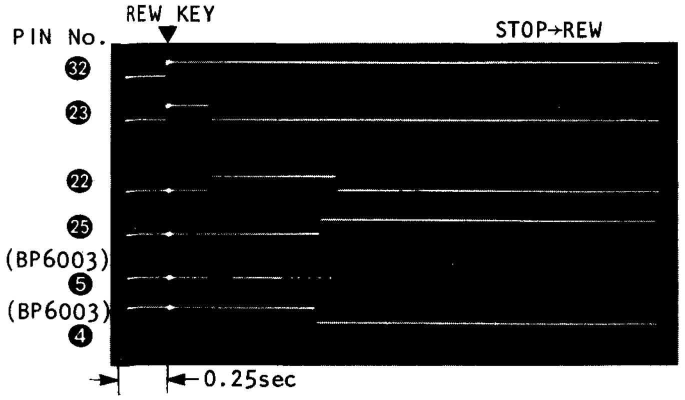


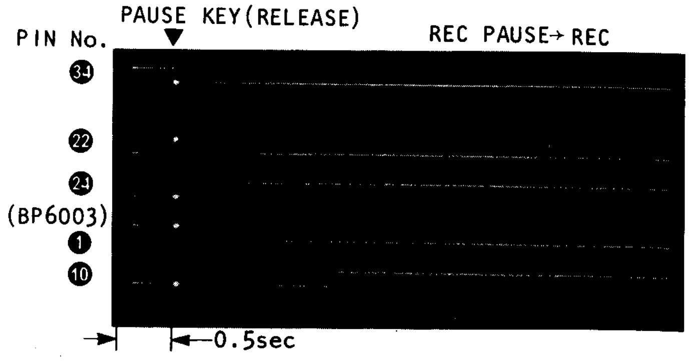


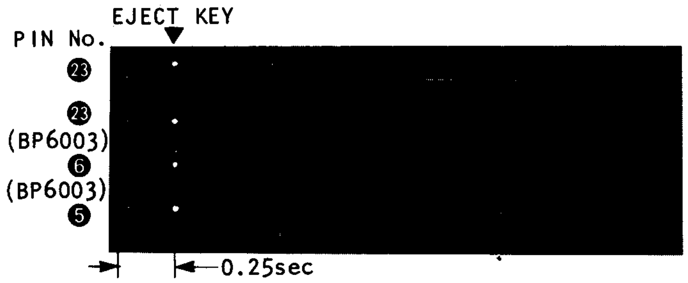


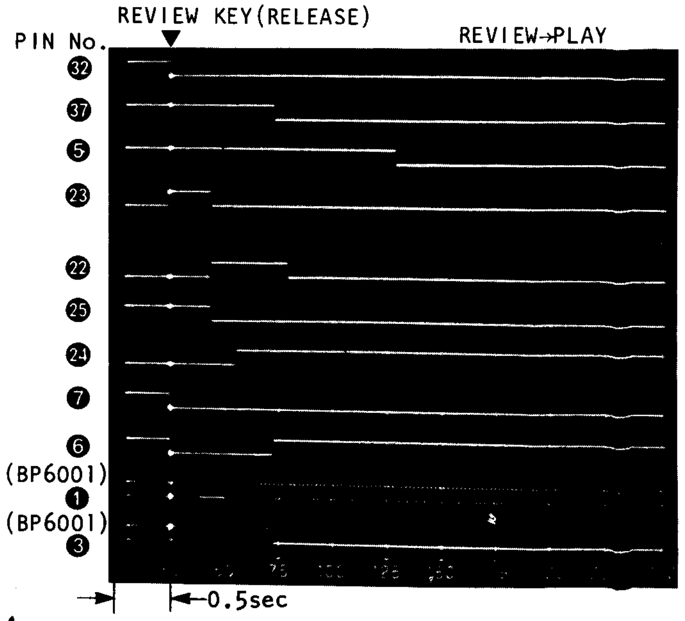




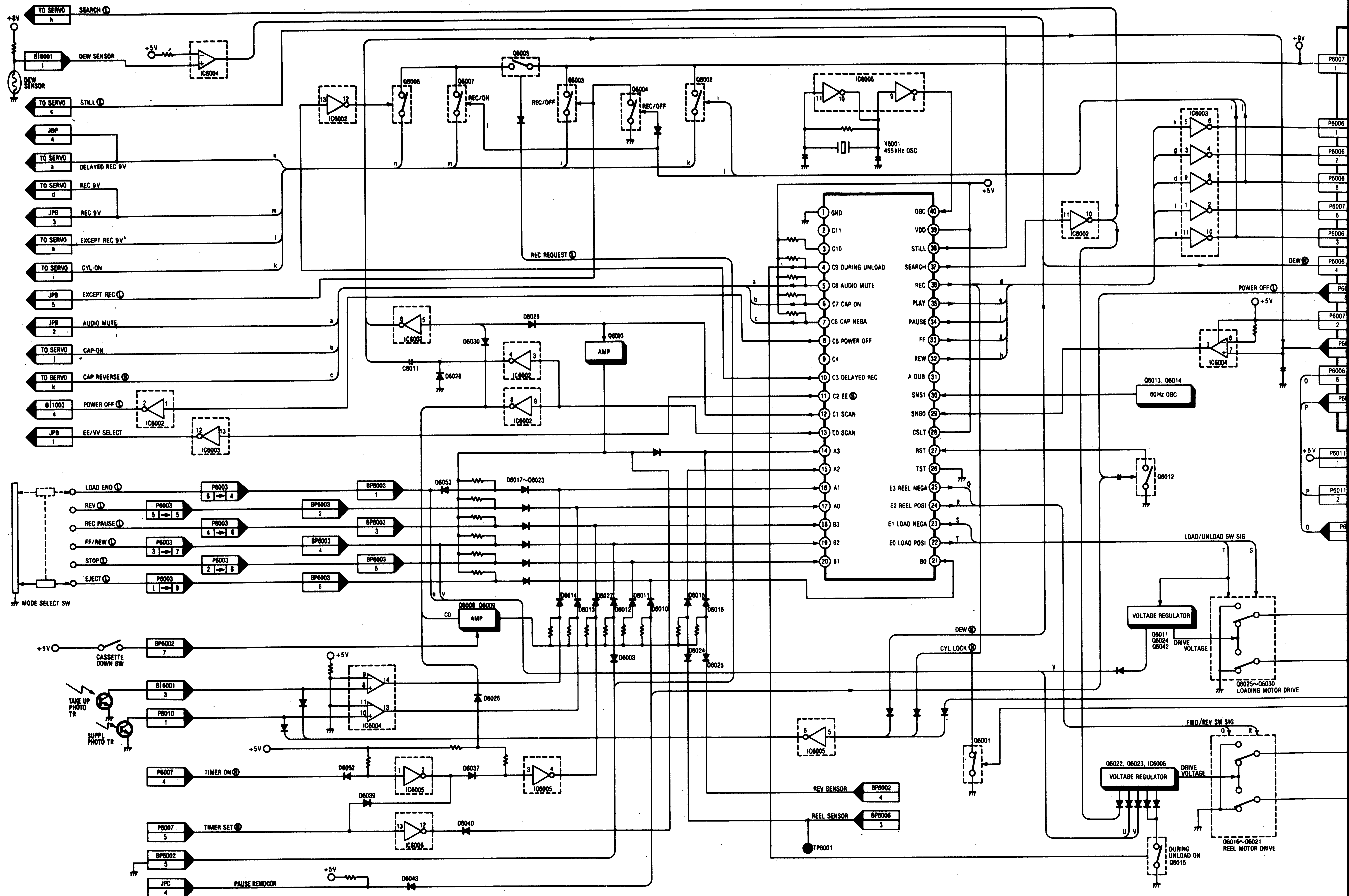






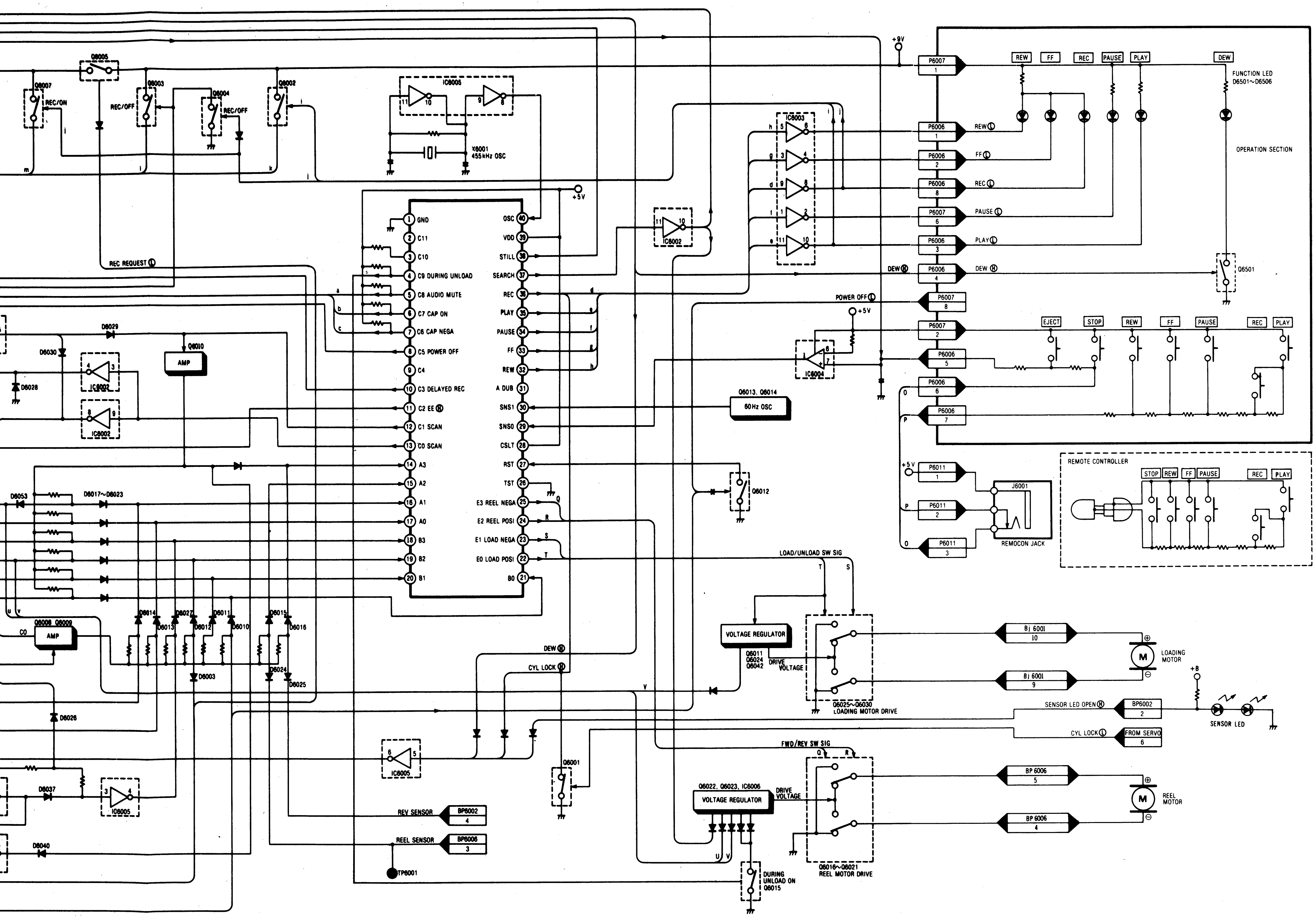


SYSTEM CONTROL BLOCK DIAGRAM



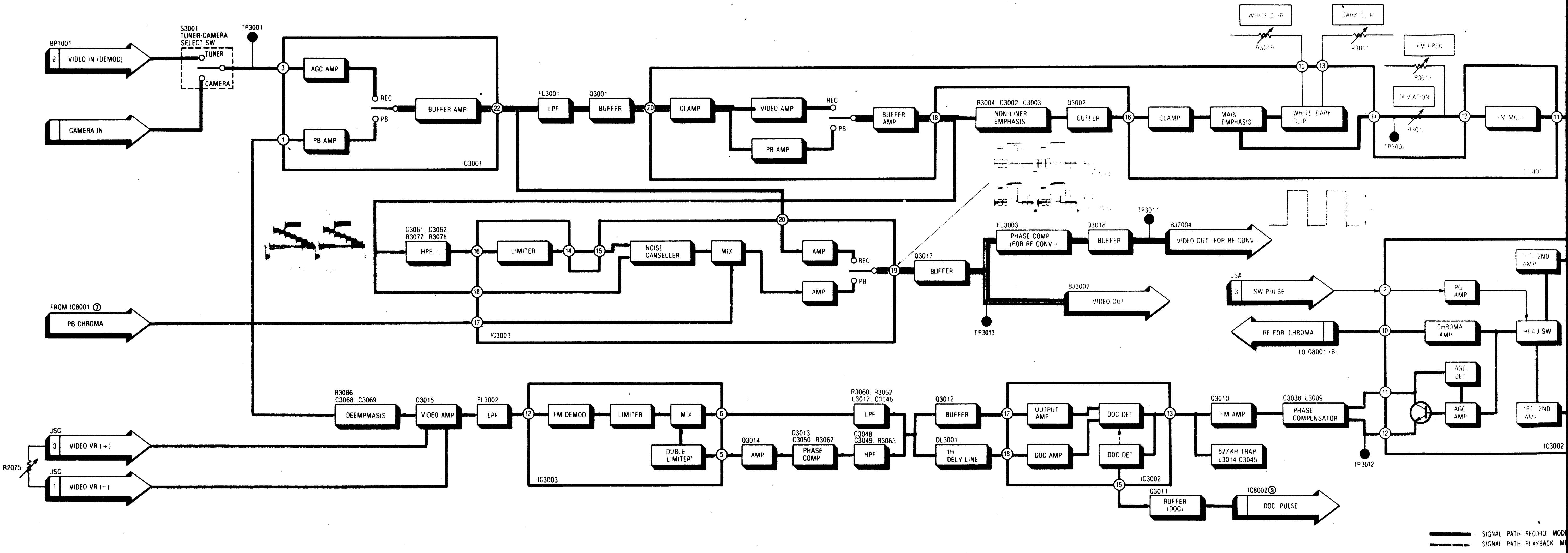
TO SERVO h
SEARCH Ⓛ
+9V
B|6001 1
DEW SENSOR
+5V
IC6004
TO SERVO c
STILL Ⓛ
JBP 4
TO SERVO a
DELAYED REC 9V
TO SERVO d
REC 9V
JPB 3
REC 9V
TO SERVO e
EXCEPT REC 9V
TO SERVO i
CYL-ON
JPB 5
EXCEPT REC Ⓛ
JPB 2
AUDIO MUTE
TO SERVO j
CAP-ON
TO SERVO k
CAP REVERSE Ⓗ
B|1003 4
POWER OFF Ⓛ
JPB 1
EE/VV SELECT
IC6002
IC6003
Q6005
Q6006
Q6007
REC/ON
Q6003
REC/OFF
Q6004
REC/OFF
Q6002
REC REQUEST Ⓛ
IC6005
X6001
455kHz OSC
D6029
D6030
C6011
D6028
Q6010
AMP
+5V
GND
C11
C10
C9 DURING UNLOAD
C8 AUDIO MUTE
C7 CAP ON
C6 CAP NEGA
C5 POWER OFF
C4
C3 DELAYED REC
C2 EE Ⓗ
C1 SCAN
C0 SCAN
A3
A2
A1
A0
B3
B2
B1
OSC
VDD
STILL
SEARCH
REC
PLAY
PAUSE
FF
REW
A DUB
SNS1
SNS0
CSLT
RST
TST
E3 REEL NEGA
E2 REEL POSI
E1 LOAD NEGA
E0 LOAD POSI
B0
Q6013, Q6014
60Hz OSC
Q6012
P6007 1
P6006 1
P6006 2
P6006 8
P6007 6
P6006 3
DEW Ⓗ
P6006 4
POWER OFF Ⓛ
+5V
P6007 2
P6006 6
+5V
P6011 1
P6011 2
LOAD END Ⓛ
REV Ⓛ
REC PAUSE Ⓛ
FF/REW Ⓛ
STOP Ⓛ
EJECT Ⓛ
MODE SELECT SW
P6003 6→4
P6003 5→5
P6003 4→6
P6003 3→7
P6003 2→8
P6003 1→9
BP6003 1
BP6003 2
BP6003 3
BP6003 4
BP6003 5
BP6003 6
D6053
D6017~D6023
D6014
D6013
D6027
D6012
D6011
D6010
D6015
D6016
D6024
D6025
D6003
Q6008 Q6009
AMP
CO
+9V
CASSETTE DOWN SW
BP6002 7
TAKE UP PHOTO TR
SUPPL PHOTO TR
B|6001 3
P6010 1
+5V
D6026
TIMER ON Ⓗ
P6007 4
D6052
D6037
D6039
TIMER SET Ⓗ
P6007 5
D6040
BP6002 5
JPC 4
PAUSE REMOCON
D6043
DEW Ⓗ
CYL LOCK Ⓗ
Q6001
REV SENSOR
BP6002 4
REEL SENSOR
BP6006 3
TP6001
LOAD/UNLOAD SW SIG
VOLTAGE REGULATOR
Q6011 Q6024 Q6042
DRIVE VOLTAGE
Q6025~Q6030 LOADING MOTOR DRIVE
FWD/REV SW SIG
Q6022, Q6023, IC6006
VOLTAGE REGULATOR
DRIVE VOLTAGE
DURING UNLOAD ON Q6015
Q6016~Q6021 REEL MOTOR DRIVE

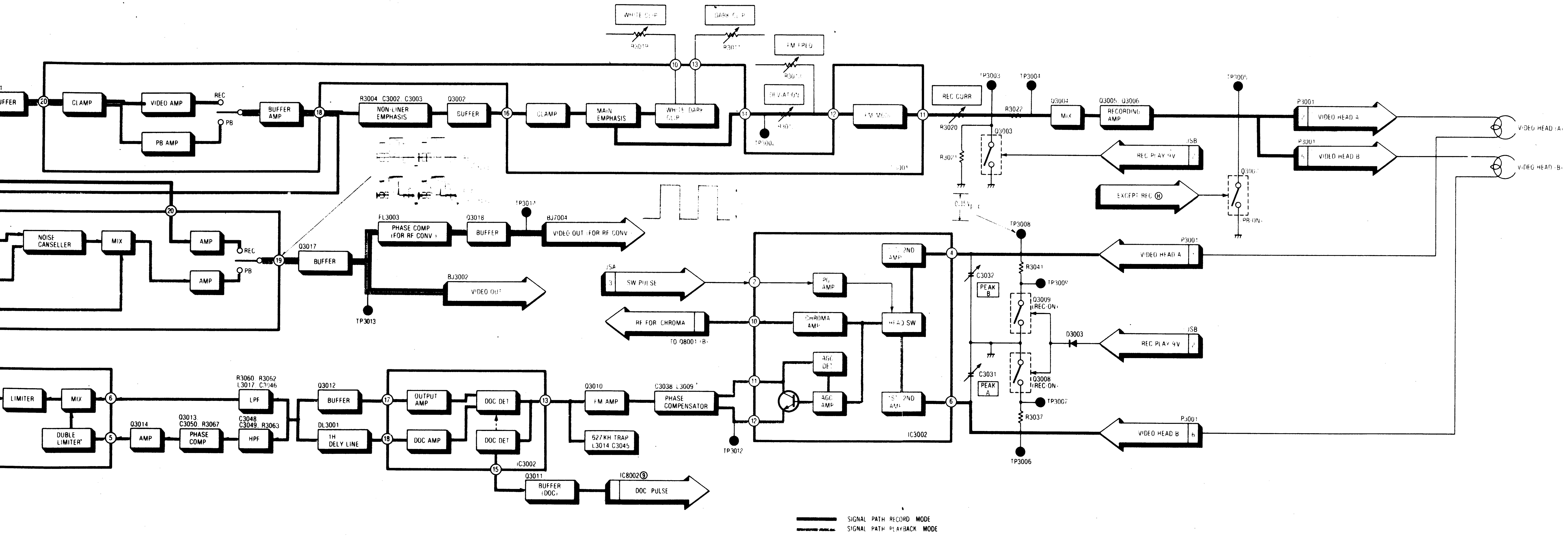
AM



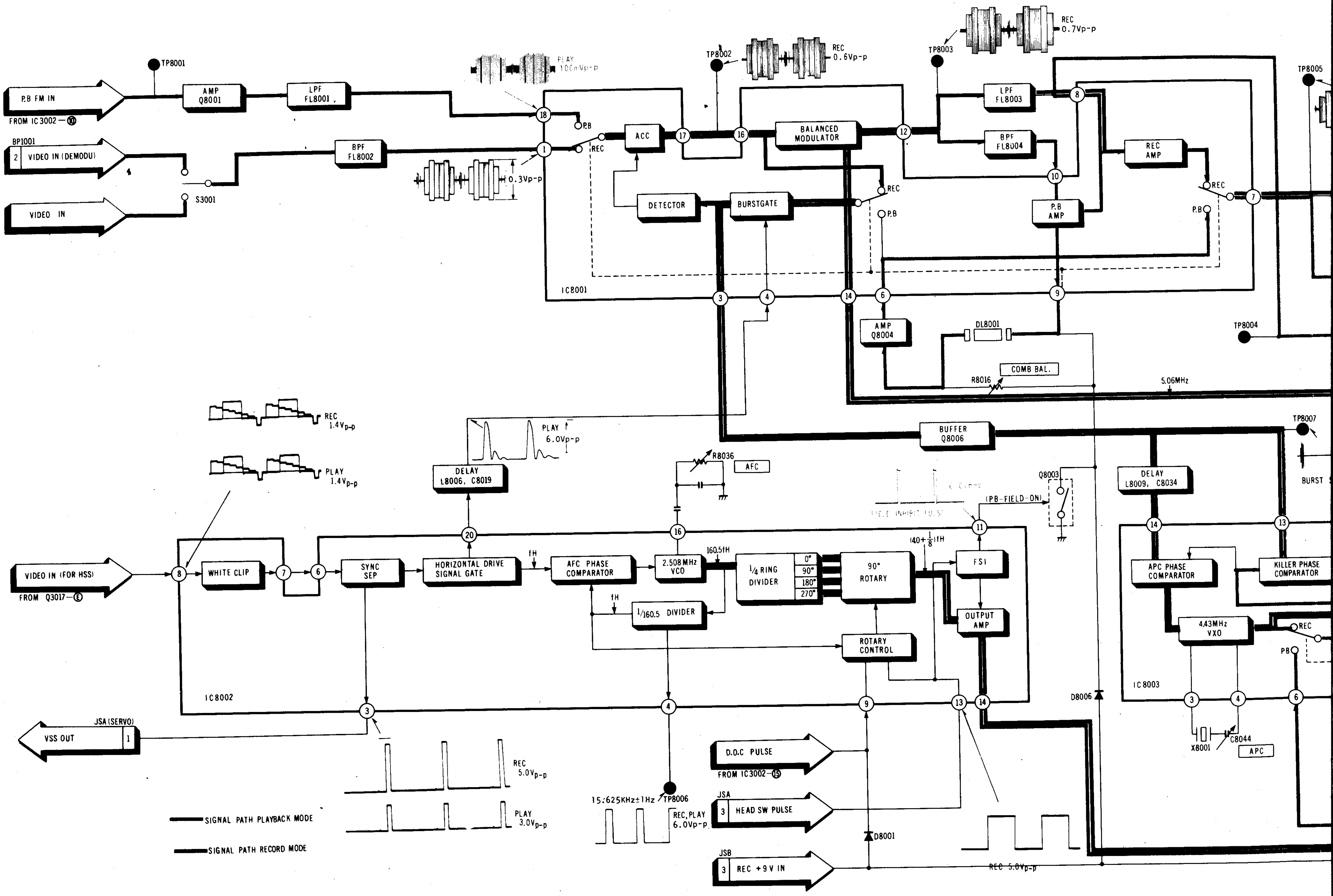
Q6005
Q6007
REC/ON
Q6003
REC/OFF
Q6004
REC/OFF
Q6002
IC6005
X6001
455 kHz OSC
+5V
+9V
REC REQUEST Ⓛ
GND
C11
C10
C9 DURING UNLOAD
C8 AUDIO MUTE
C7 CAP ON
C6 CAP NEGA
C5 POWER OFF
C4
C3 DELAYED REC
C2 EE Ⓗ
C1 SCAN
C0 SCAN
A3
A2
A1
A0
B3
B2
B1
OSC
VDD
STILL
SEARCH
REC
PLAY
PAUSE
FF
REW
A DUB
SNS1
SNS0
CSLT
RST
TST
E3 REEL NEGA
E2 REEL POSI
E1 LOAD NEGA
E0 LOAD POSI
B0
IC6002
IC6003
IC6004
D6029
D6030
D6028
Q6010
AMP
D6053
D6017~D6023
Q6008, Q6009
AMP
C0
D6014
D6013
D6027
D6012
D6011
D6010
D6015
D6016
D6003
D6024
D6025
D6026
D6037
D6040
Q6013, Q6014
60Hz OSC
Q6012
DEW Ⓗ
CYL LOCK Ⓗ
Q6001
REV SENSOR
BP6002
4
REEL SENSOR
BP6006
3
TP6001
LOAD/UNLOAD SW SIG
VOLTAGE REGULATOR
Q6011
Q6024
Q6042
DRIVE VOLTAGE
Q6025~Q6030
LOADING MOTOR DRIVE
Bj 6001
10
Bj 6001
9
M
LOADING MOTOR
+B
SENSOR LED OPEN Ⓗ
BP6002
2
SENSOR LED
CYL LOCK Ⓛ
FROM SERVO
6
FWD/REV SW SIG
Q6022, Q6023, IC6006
VOLTAGE REGULATOR
DRIVE VOLTAGE
Q6016~Q6021
REEL MOTOR DRIVE
DURING UNLOAD ON
Q6015
BP 6006
5
BP 6006
4
M
REEL MOTOR
P6007
1
P6006
1
REW Ⓛ
P6006
2
FF Ⓛ
P6006
8
REC Ⓛ
P6007
6
PAUSE Ⓛ
P6006
3
PLAY Ⓛ
DEW Ⓗ
P6006
4
DEW Ⓗ
POWER OFF Ⓛ
P6007
8
P6007
2
P6006
5
P6006
6
P6006
7
REW
FF
REC
PAUSE
PLAY
DEW
FUNCTION LED
D6501~D6506
OPERATION SECTION
Q6501
EJECT
STOP
REW
FF
PAUSE
REC
PLAY
P6011
1
P6011
2
P6011
3
J6001
REMOCON JACK
REMOTE CONTROLLER
STOP
REW
FF
PAUSE
REC
PLAY

LUMINANCE PROCESS BLOCK DIAGRAM

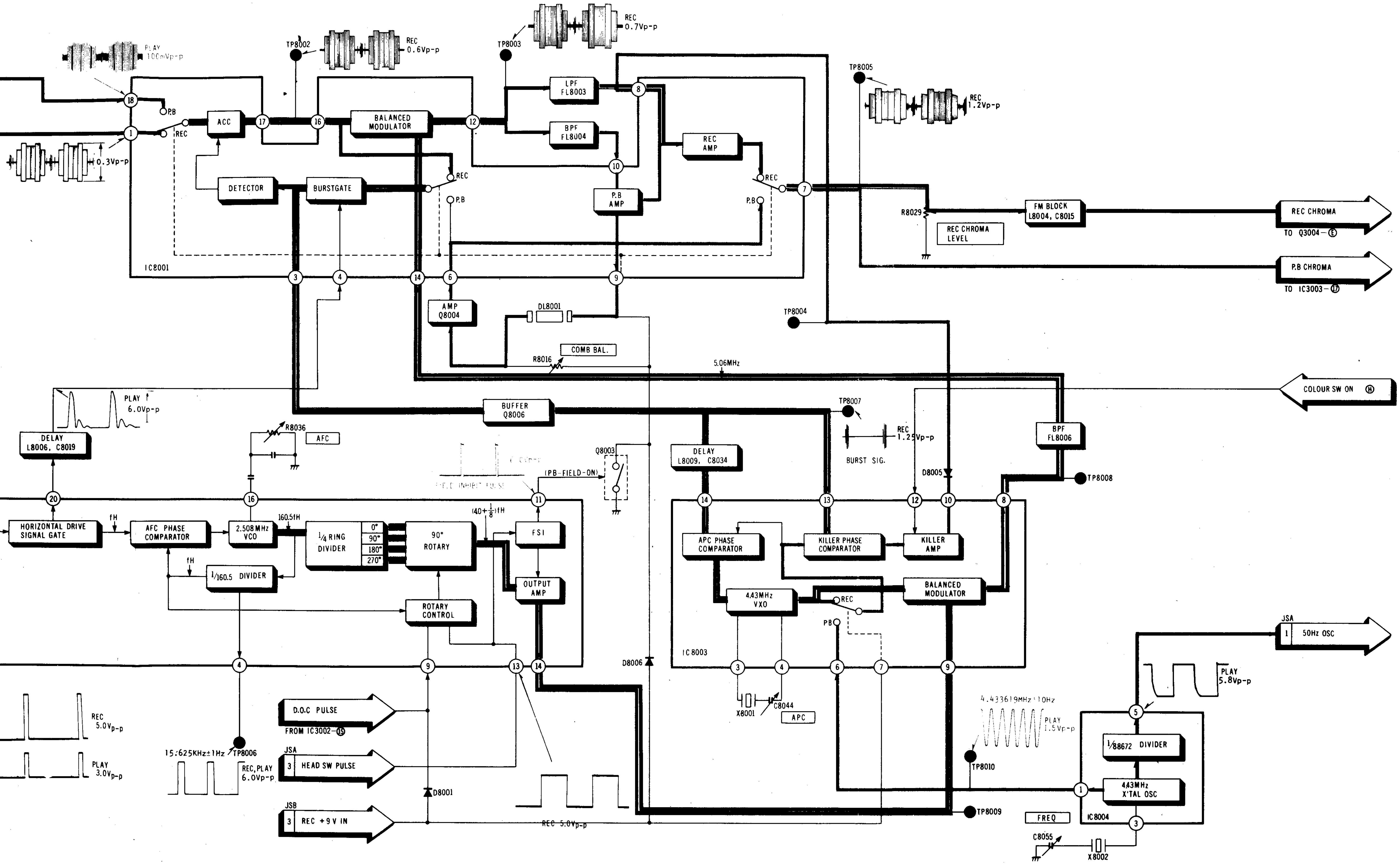

BP1001
2 VIDEO IN (DEMOD)
CAMERA IN
S3001
TUNER-CAMERA
SELECT SW
TUNER
CAMERA
TP3001
AGC AMP
PB AMP
REC
PB
BUFFER AMP
IC3001
FL3001
LPF
Q3001
BUFFER
CLAMP
VIDEO AMP
PB AMP
REC
PB
BUFFER AMP
R3004 C3002 C3003
NON-LINER EMPHASIS
Q3002
BUFFER
CLAMP
MAIN EMPHASIS
WHITE DARK CLIP
WHITE CLIP
R3019
DARK CLIP
FM FREQ
DEVIATION
TP3002
FM MOD
C3061 C3062
R3077 R3078
HPF
LIMITER
NOISE CANSELLER
MIX
AMP
AMP
REC
PB
IC3003
FROM IC8001 ⑦
PB CHROMA
Q3017
BUFFER
TP3013
FL3003
PHASE COMP
(FOR RF CONV)
Q3018
BUFFER
BJ7004
VIDEO OUT (FOR RF CONV)
BJ3002
VIDEO OUT
JSA
3 SW PULSE
RF FOR CHROMA
TO Q8001 (B)
PG AMP
CHROMA AMP
HEAD SW
2ND AMP
AGC DET
AGC AMP
2ND AMP
IC3002
R3086
C3068 C3069
DEEMPMASIS
Q3015
VIDEO AMP
FL3002
LPF
FM DEMOD
LIMITER
MIX
DUBLE LIMITER
IC3003
Q3014
AMP
Q3013
C3050 R3067
PHASE COMP
R3060 R3062
L3017 C3046
LPF
C3048
C3049 R3063
HPF
Q3012
BUFFER
DL3001
1H DELY LINE
OUTPUT AMP
DOC AMP
DOC DET
DOC DET
IC3002
Q3011
BUFFER (DOC)
IC8002 ⑨
DOC PULSE
Q3010
FM AMP
C3038 L3009
PHASE COMPENSATOR
627KH TRAP
L3014 C3045
TP3012
JSC
3 VIDEO VR (+)
JSC
1 VIDEO VR (−)
R2075
SIGNAL PATH RECORD MOD
SIGNAL PATH PLAYBACK M


UFFER
CLAMP
VIDEO AMP
PB AMP
REC
PB
BUFFER AMP
R3004 C3002 C3003
NON-LINER EMPHASIS
Q3002
BUFFER
CLAMP
MAIN EMPHASIS
WHITE CLIP
R3019
DARK CLIP
R3011
WHITE DARK CLIP
FM FREQ
R3013
DEVIATION
R3012
TP3002
FM MOD
IC3001
REC CURR
R3020
R3021
TP3003
TP3004
R3022
Q3003
Q3004
MIX
Q3005, Q3006
RECORDING AMP
TP3005
P3001
2 VIDEO HEAD A
P3001
5 VIDEO HEAD B
VIDEO HEAD (A)
VIDEO HEAD (B)
JSB
REC PLAY 9V 2
EXCEPT REC Ⓗ
Q3007
(PB-ON)
0.35Vp-p
NOISE CANSELLER
MIX
AMP
AMP
REC
PB
Q3017
BUFFER
TP3013
FL3003
PHASE COMP (FOR RF CONV)
Q3018
BUFFER
TP3014
BJ7004
VIDEO OUT (FOR RF CONV)
BJ3002
VIDEO OUT
JSA
3 SW PULSE
RF FOR CHROMA
TO Q8001 (B)
PG AMP
CHROMA AMP
AGC DET
AGC AMP
1ST 2ND AMP
HEAD SW
1ST 2ND AMP
IC3002
TP3008
R3041
TP3009
C3032
PEAK B
Q3009 (REC-ON)
D3003
JSB
REC PLAY 9V 7
C3031
PEAK A
Q3008 (REC-ON)
TP3007
R3037
TP3006
P3001
VIDEO HEAD A
P3001
VIDEO HEAD B 6
LIMITER
MIX
DUBLE LIMITER
R3060 R3062
L3017 C3046
LPF
C3048
C3049 R3063
HPF
Q3014
AMP
Q3013
C3050 R3067
PHASE COMP
Q3012
BUFFER
DL3001
1H DELY LINE
OUTPUT AMP
DOC AMP
DOC DET
DOC DET
IC3002
Q3010
FM AMP
627KH TRAP
L3014 C3045
C3038 L3009
PHASE COMPENSATOR
TP3012
Q3011
BUFFER (DOC)
IC8002⑨
DOC PULSE
SIGNAL PATH RECORD MODE
SIGNAL PATH PLAYBACK MODE

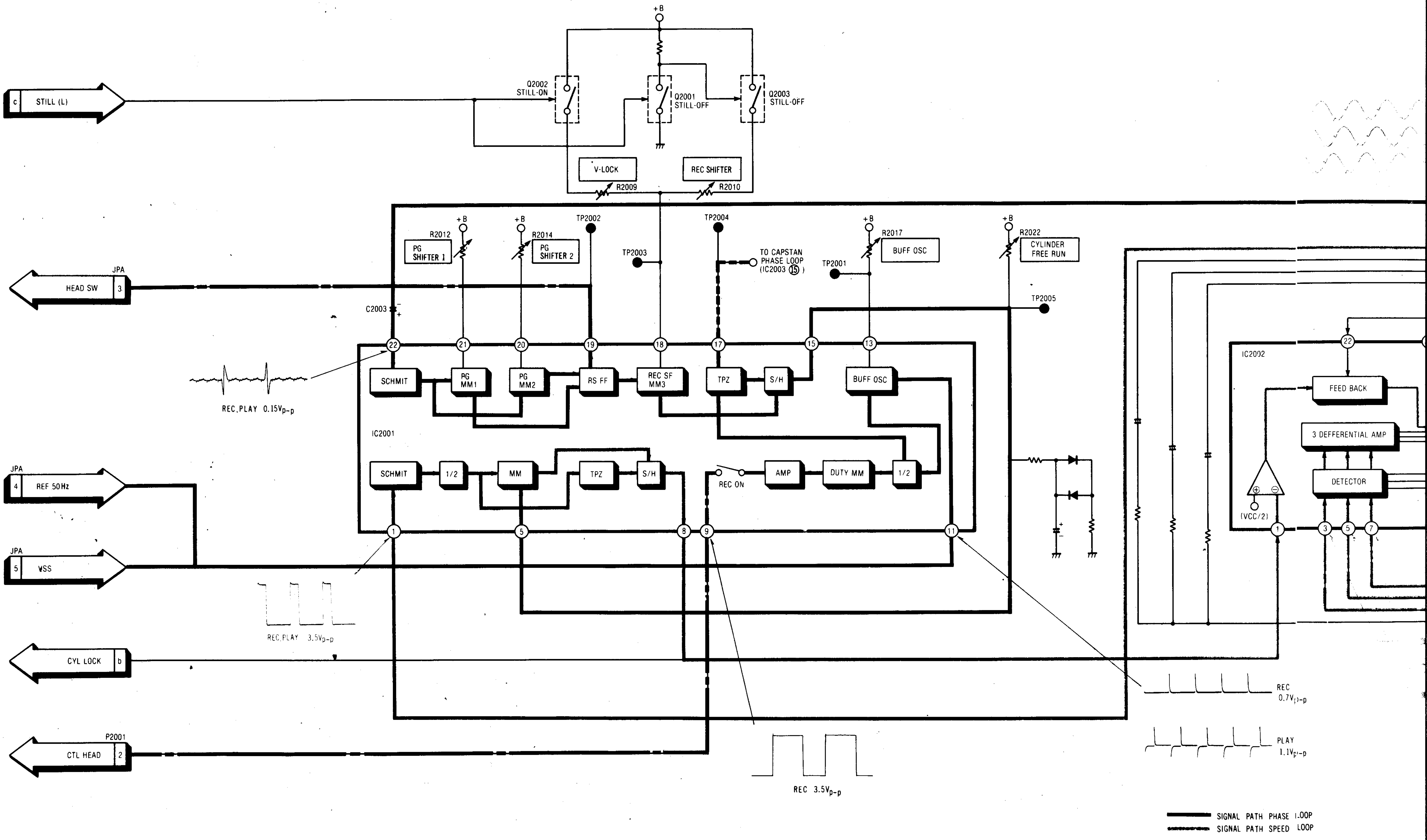
CHROMINANCE PROCESS BLOCK DIAGRAM

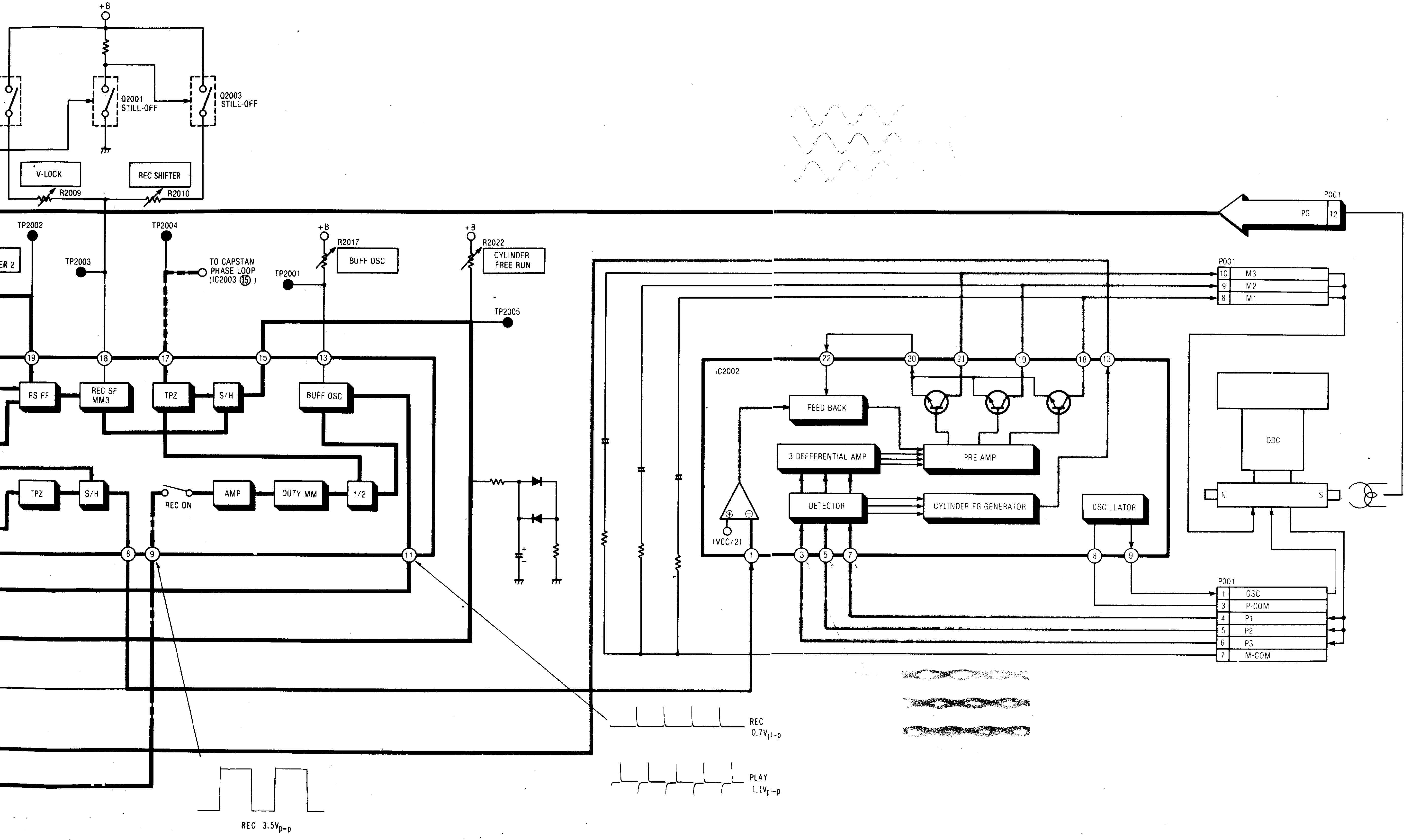

TP8001
P.B FM IN
FROM IC3002—⑩
AMP
Q8001
LPF
FL8001
PLAY
100mVp-p
18
P.B
BP1001
2
VIDEO IN (DEMODU)
BPF
FL8002
1
REC
0.3Vp-p
VIDEO IN
S3001
ACC
17
TP8002
REC
0.6Vp-p
16
BALANCED
MODULATOR
12
DETECTOR
BURSTGATE
REC
P.B
TP8003
REC
0.7Vp-p
LPF
FL8003
BPF
FL8004
8
10
REC
AMP
P.B
AMP
REC
P.B
7
TP8005
IC8001
3
4
14
6
9
AMP
Q8004
DL8001
COMB BAL.
R8016
5.06MHz
TP8004
REC
1.4Vp-p
PLAY
1.4Vp-p
PLAY
6.0Vp-p
DELAY
L8006, C8019
R8036
AFC
BUFFER
Q8006
TP8007
BURST
Q8003
(PB-FIELD-ON)
FIELD INHIBIT PULSE
DELAY
L8009, C8034
VIDEO IN (FOR HSS)
FROM Q3017—Ⓔ
8
WHITE CLIP
7
6
SYNC
SEP
20
HORIZONTAL DRIVE
SIGNAL GATE
fH
AFC PHASE
COMPARATOR
16
2.508MHz
VCO
160.5fH
1/4 RING
DIVIDER
0°
90°
180°
270°
90°
ROTARY
(40+1/8)fH
11
FSI
OUTPUT
AMP
14
13
APC PHASE
COMPARATOR
KILLER PHASE
COMPARATOR
4.43MHz
VXO
REC
PB
fH
1/160.5 DIVIDER
ROTARY
CONTROL
IC8002
3
4
9
13
14
D8006
IC8003
3
4
6
X8001
C8044
APC
JSA (SERVO)
VSS OUT
1
REC
5.0Vp-p
PLAY
3.0Vp-p
15.625KHz±1Hz
TP8006
REC, PLAY
6.0Vp-p
D.O.C PULSE
FROM IC3002—⑮
JSA
3
HEAD SW PULSE
D8001
JSB
3
REC +9 V IN
REC 5.0Vp-p
SIGNAL PATH PLAYBACK MODE
SIGNAL PATH RECORD MODE

K DIAGRAM


PLAY 100mVp-p
TP8002
REC 0.6Vp-p
TP8003
REC 0.7Vp-p
TP8005
REC 1.2Vp-p
0.3Vp-p
18
1
P.B
REC
ACC
17
16
BALANCED MODULATOR
12
LPF FL8003
BPF FL8004
8
10
REC AMP
REC
P.B AMP
REC
P.B
7
R8029
REC CHROMA LEVEL
FM BLOCK L8004, C8015
REC CHROMA
TO Q3004-Ⓔ
P.B CHROMA
TO IC3003-⑰
DETECTOR
BURSTGATE
REC
P.B
IC8001
3
4
14
6
9
AMP Q8004
DL8001
COMB BAL.
R8016
5.06MHz
TP8004
COLOUR SW ON Ⓗ
PLAY
6.0Vp-p
DELAY L8006, C8019
R8036
AFC
BUFFER Q8006
TP8007
REC 1.25Vp-p
BURST SIG.
BPF FL8006
TP8008
Q8003
(PB-FIELD-ON)
FIELD INHIBIT PULSE
DELAY L8009, C8034
D8005
20
16
11
14
13
12
10
8
HORIZONTAL DRIVE SIGNAL GATE
fH
AFC PHASE COMPARATOR
2.508MHz VCO
160.5fH
1/4 RING DIVIDER
0°
90°
180°
270°
90° ROTARY
(40+1/8)fH
FSI
OUTPUT AMP
fH
1/160.5 DIVIDER
ROTARY CONTROL
APC PHASE COMPARATOR
KILLER PHASE COMPARATOR
KILLER AMP
4.43MHz VXO
REC
PB
BALANCED MODULATOR
IC8003
4
9
13
14
D8006
3
4
6
7
9
X8001
C8044
APC
REC 5.0Vp-p
PLAY 3.0Vp-p
15.625KHz±1Hz
TP8006
REC, PLAY 6.0Vp-p
D.O.C PULSE
FROM IC3002-⑮
JSA
3
HEAD SW PULSE
JSB
3
REC +9V IN
D8001
REC 5.0Vp-p
4.433619MHz±10Hz
PLAY 1.5Vp-p
TP8010
TP8009
JSA
1
50Hz OSC
PLAY 5.8Vp-p
5
1/88672 DIVIDER
1
4.43MHz X'TAL OSC
IC8004
3
FREQ
C8055
X8002

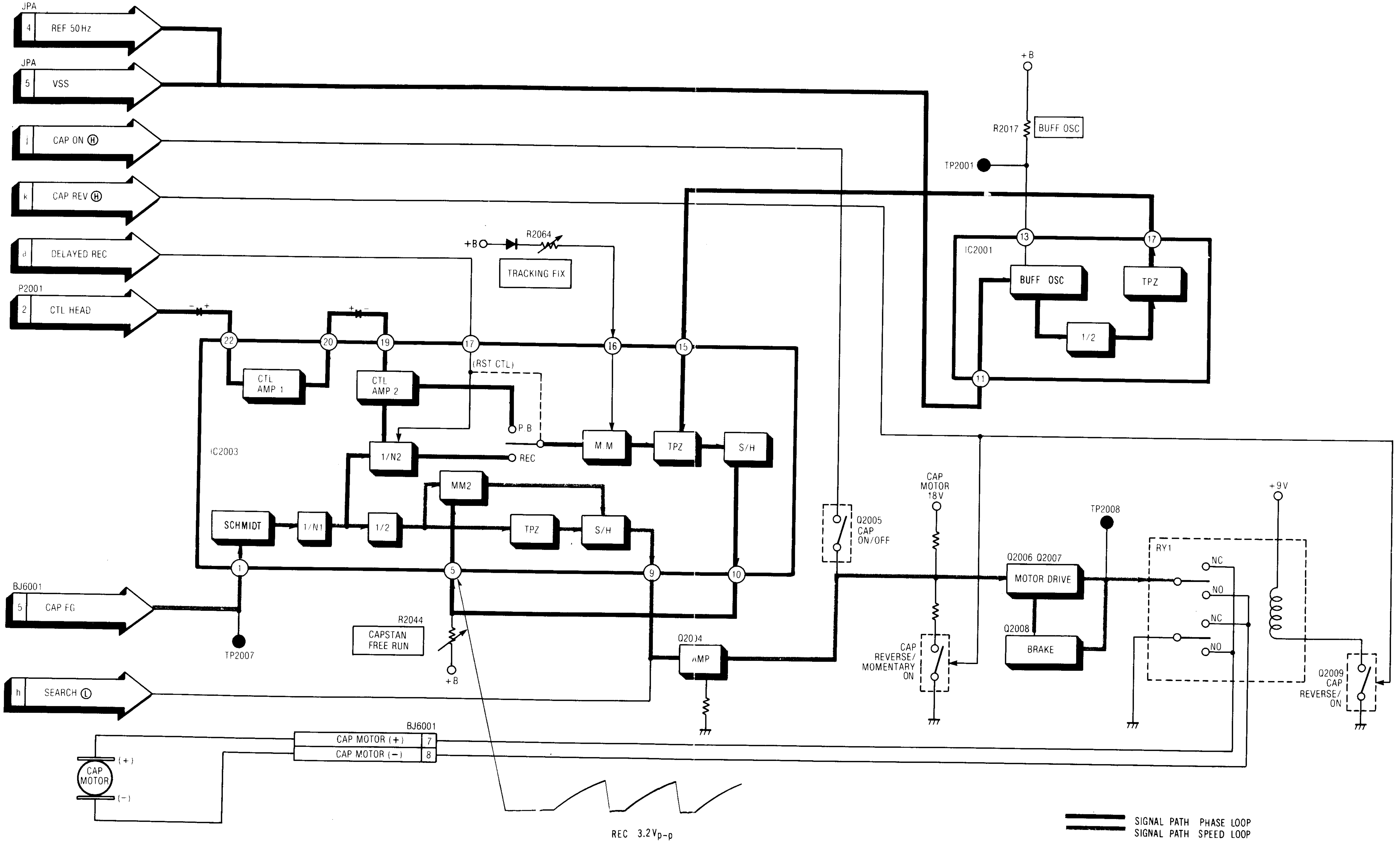
CYLINDER SERVO BLOCK DIAGRAM

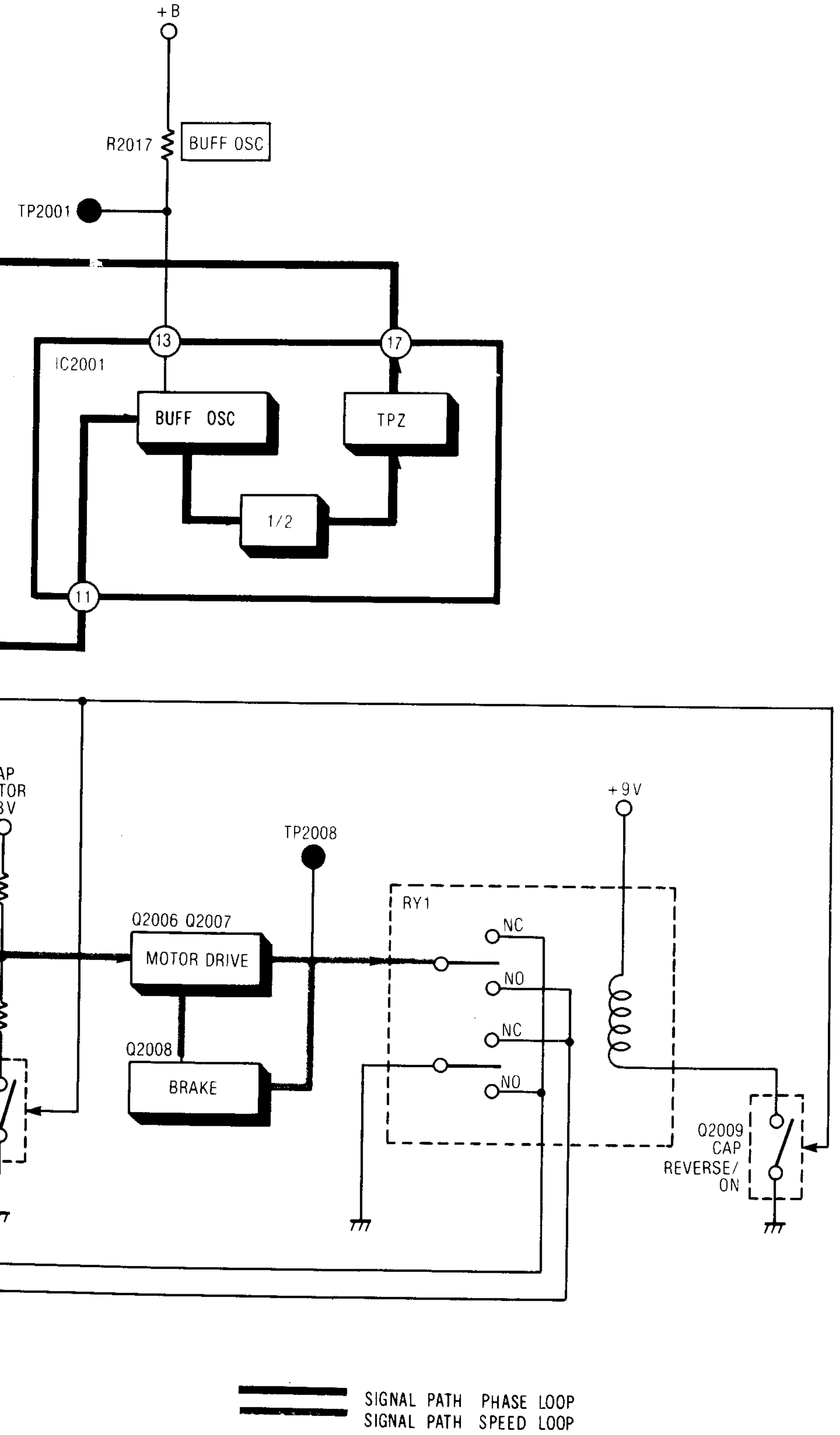

+B
c
STILL (L)
Q2002
STILL-ON
Q2001
STILL-OFF
Q2003
STILL-OFF
V-LOCK
REC SHIFTER
R2009
R2010
JPA
HEAD SW
3
+B
R2012
PG
SHIFTER 1
+B
R2014
PG
SHIFTER 2
TP2002
TP2003
TP2004
TO CAPSTAN
PHASE LOOP
(IC2003 ⑮)
TP2001
+B
R2017
BUFF OSC
+B
R2022
CYLINDER
FREE RUN
TP2005
C2003
22
21
20
19
18
17
15
13
SCHMIT
PG
MM1
PG
MM2
RS FF
REC SF
MM3
TPZ
S/H
BUFF OSC
REC,PLAY 0.15V$_{p-p}$
IC2001
SCHMIT
1/2
MM
TPZ
S/H
REC ON
AMP
DUTY MM
1/2
1
5
8
9
11
JPA
4
REF 50Hz
JPA
5
VSS
REC,PLAY 3.5V$_{p-p}$
CYL LOCK
b
P2001
CTL HEAD
2
REC 3.5V$_{p-p}$
IC2002
22
FEED BACK
3 DEFFERENTIAL AMP
DETECTOR
(VCC/2)
1
3
5
7
REC
0.7V$_{p-p}$
PLAY
1.1V$_{p-p}$
SIGNAL PATH PHASE LOOP
SIGNAL PATH SPEED LOOP


+B
Q2001
STILL-OFF
Q2003
STILL-OFF
V-LOCK
REC SHIFTER
R2009
R2010
TP2002
TP2004
ER 2
TP2003
TO CAPSTAN
PHASE LOOP
(IC2003 ⑮)
TP2001
+B
R2017
BUFF OSC
+B
R2022
CYLINDER
FREE RUN
TP2005
19
18
17
15
13
RS FF
REC SF
MM3
TPZ
S/H
BUFF OSC
TPZ
S/H
REC ON
AMP
DUTY MM
1/2
8
9
11
REC 3.5V$_{p-p}$
REC
0.7V$_{p-p}$
PLAY
1.1V$_{p-p}$
IC2002
22
20
21
19
18
13
FEED BACK
3 DEFFERENTIAL AMP
PRE AMP
DETECTOR
CYLINDER FG GENERATOR
OSCILLATOR
(VCC/2)
1
3
5
7
8
9
PG
P001
12
P001
10 M3
9 M2
8 M1
DDC
N
S
P001
1 OSC
3 P-COM
4 P1
5 P2
6 P3
7 M-COM

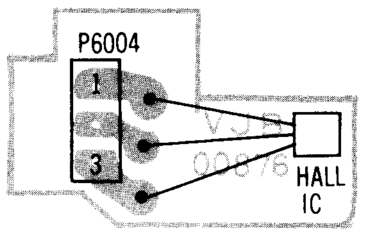
SIGNAL PATH PHASE LOOP
SIGNAL PATH SPEED LOOP

CAPSTAN SERVO BLOCK DIAGRAM


JPA
4 REF 50Hz
JPA
5 VSS
i CAP ON Ⓗ
k CAP REV Ⓗ
d DELAYED REC
P2001
2 CTL HEAD
BJ6001
5 CAP FG
h SEARCH Ⓛ
22
20
19
17
16
15
CTL AMP 1
CTL AMP 2
(RST CTL)
P B
REC
1/N2
IC2003
MM2
SCHMIDT
1/N1
1/2
TPZ
S/H
M M
TPZ
S/H
1
5
9
10
+B
R2064
TRACKING FIX
R2044
CAPSTAN FREE RUN
+B
TP2007
Q2004
AMP
+B
R2017
BUFF OSC
TP2001
IC2001
13
17
BUFF OSC
TPZ
1/2
11
Q2005
CAP ON/OFF
CAP MOTOR 18V
CAP REVERSE/ MOMENTARY ON
Q2006 Q2007
MOTOR DRIVE
Q2008
BRAKE
TP2008
+9V
RY1
NC
NO
NC
NO
Q2009
CAP REVERSE/ ON
BJ6001
CAP MOTOR (+) 7
CAP MOTOR (−) 8
CAP MOTOR
(+)
(−)
REC 3.2Vp-p
SIGNAL PATH PHASE LOOP
SIGNAL PATH SPEED LOOP

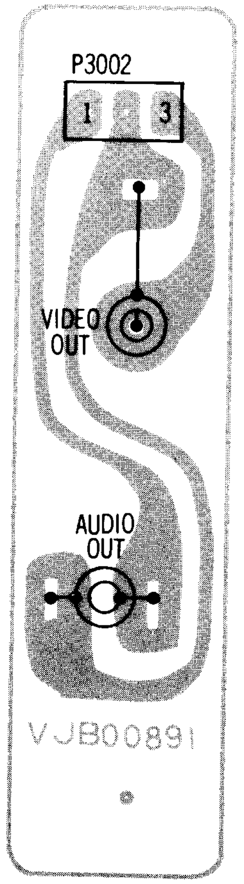

+B
R2017
BUFF OSC
TP2001
13
17
IC2001
BUFF OSC
TPZ
1/2
11
AP
TOR
3V
TP2008
+9V
RY1
NC
NO
NC
NO
Q2006 Q2007
MOTOR DRIVE
Q2008
BRAKE
Q2009
CAP
REVERSE/
ON
SIGNAL PATH PHASE LOOP
SIGNAL PATH SPEED LOOP

REEL SENSOR P.C.B.
(VJB00876)


P6004
1
3
VJB
00876
HALL
IC

REEL SENSOR	1	BP6006-3
GND	2	BP6006-2
+9V	3	BP6006-1

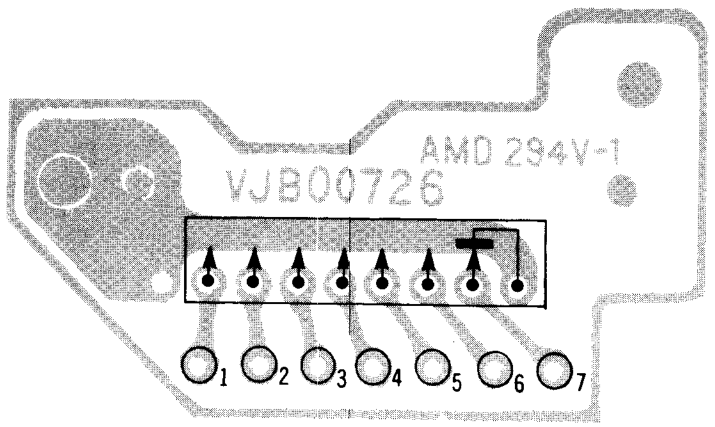
OUTPUT TERMINAL P.C.B.
(VJB00891)


P3002
1
3
VIDEO
OUT
AUDIO
OUT
VJB00891

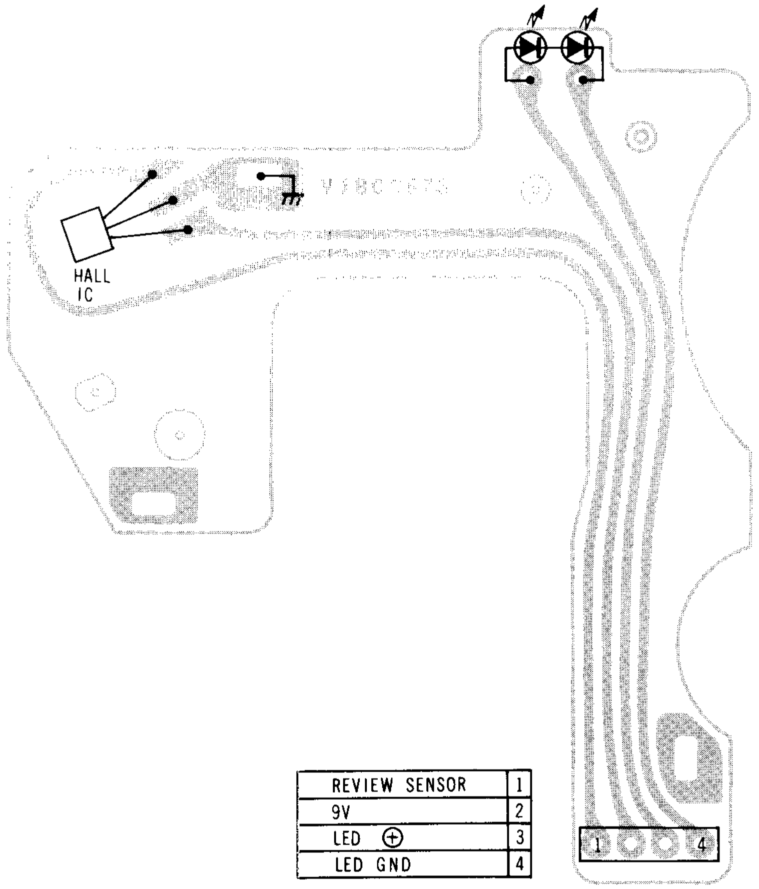
P3002

AUDIO OUT	1	BJ3002-1
GND	2	BJ3002-2
VIDEO OUT	3	BJ3002-3

MODE SELECT SWITCH P.C.B.
(VJB00726)

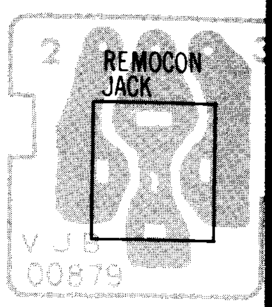

AMD 294V-1
VJB00726
1
2
3
4
5
6
7

REVIEW SENSOR P.C.B.
(VJB00873)


HALL
IC
VJB00873
1
4

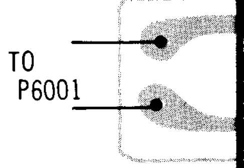
REVIEW SENSOR	1
9V	2
LED ⊕	3
LED GND	4

REMOTE CONTR
(VJB00879)

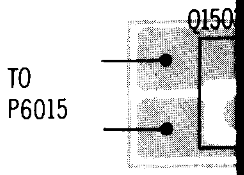

2
REMOCON
JACK
VJB
00879

MOTOR CONNE
(VJB00872)

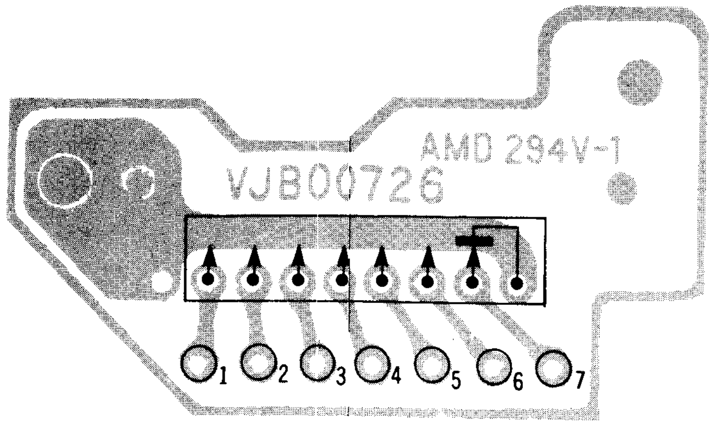
TAKEUP PHOT
(VJB00872)



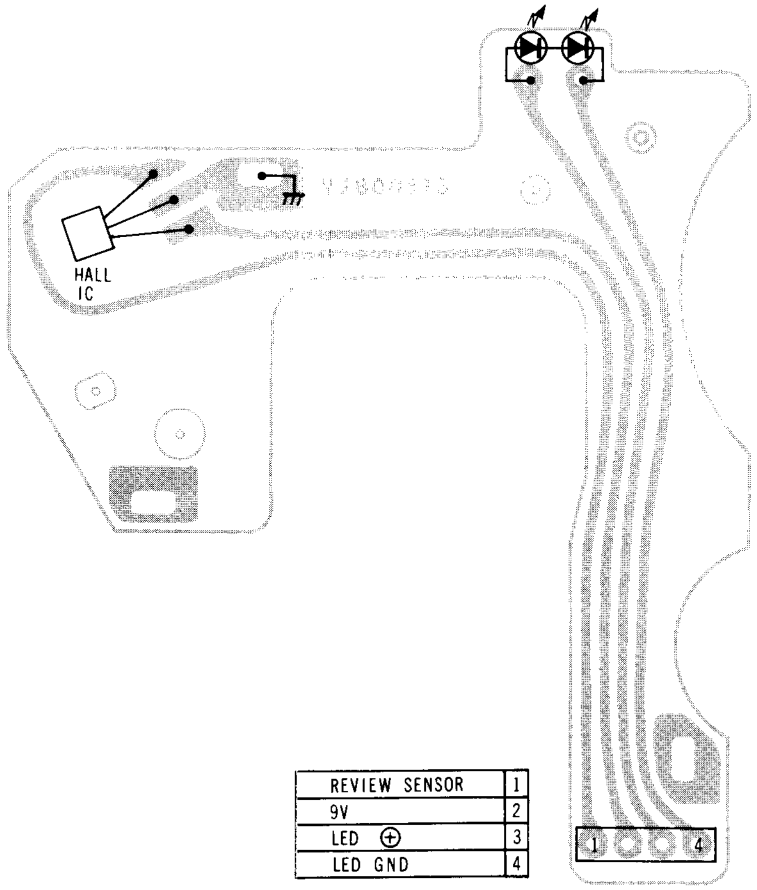
SUPPLY PHOT
(VJB00709)


Q150
TO
P6015

MODE SELECT SWITCH P.C.B.
(VJB00726)

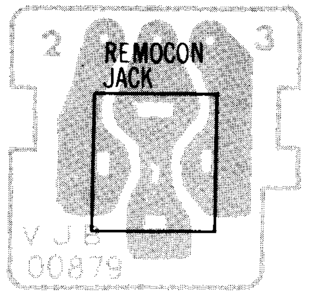

AMD 294V-1
VJB00726
1
2
3
4
5
6
7

REVIEW SENSOR P.C.B.
(VJB00873)

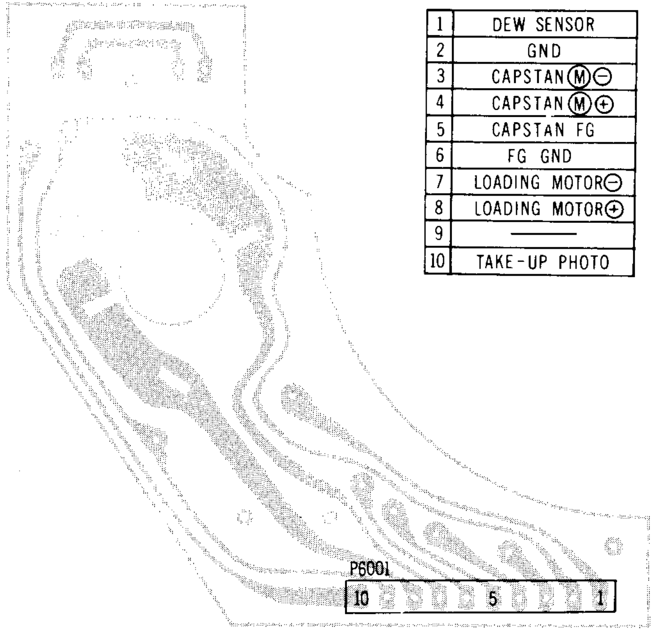


REVIEW SENSOR	1
9V	2
LED ⊕	3
LED GND	4

REMOTE CONTROL JACK P.C.B.
(VJB00879)


2
3
REMOCON JACK
VJB 00879

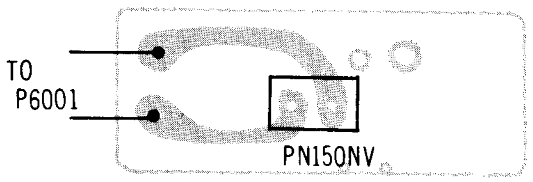
MOTOR CONNECTION P.C.B.
(VJB00872)



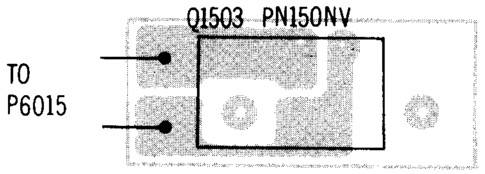
P6001

1	DEW SENSOR
2	GND
3	CAPSTAN Ⓜ⊖
4	CAPSTAN Ⓜ⊕
5	CAPSTAN FG
6	FG GND
7	LOADING MOTOR⊖
8	LOADING MOTOR⊕
9	———
10	TAKE-UP PHOTO

TAKEUP PHOTO SENSOR P.C.B.
(VJB00872)


TO P6001
PN150NV

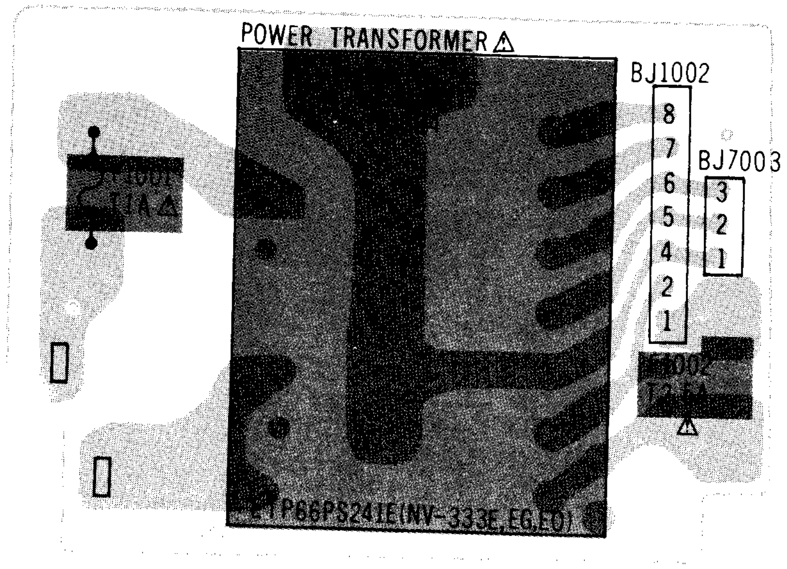
SUPPLY PHOTO SENSOR P.C.B.
(VJB00709)


Q1503 PN150NV
TO P6015

POWER TRANSFORMER P.C.B (*NV-333E, EG, EO:* VJB00892A)

BJ7003	to P7003
1	22V
2	0V
3	36V

P1004	to P6009
1	GND
2	———

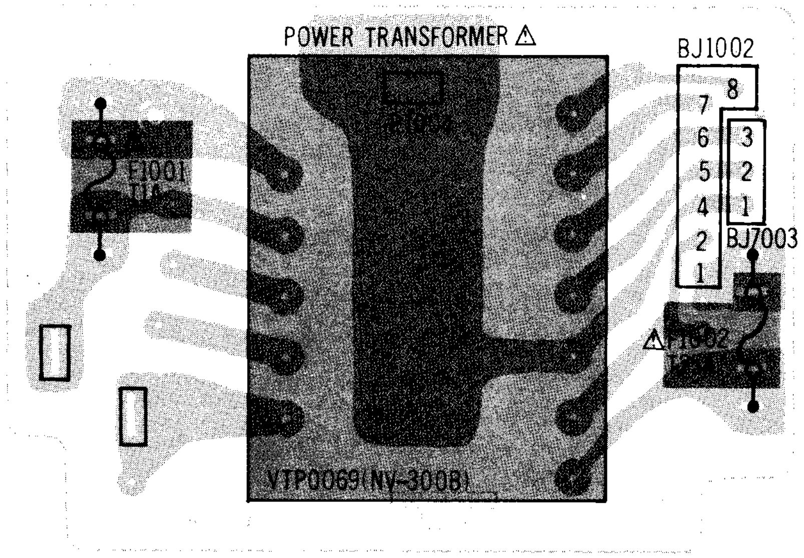

POWER TRANSFORMER ⚠
BJ1002
8
7
6
5
4
2
1
BJ7003
3
2
1
F1001 T1A ⚠
F1002 T2.5A ⚠
P66PS241E(NV-333E,EG,EO)

BJ1002	to P1002
1	14V
2	14V
3	———
4	0V
5	22V
6	36V
7	2.65V
8	2.65V

POWER TRANSFORMER P.C.B (*NV-333B:* VJB01103B)

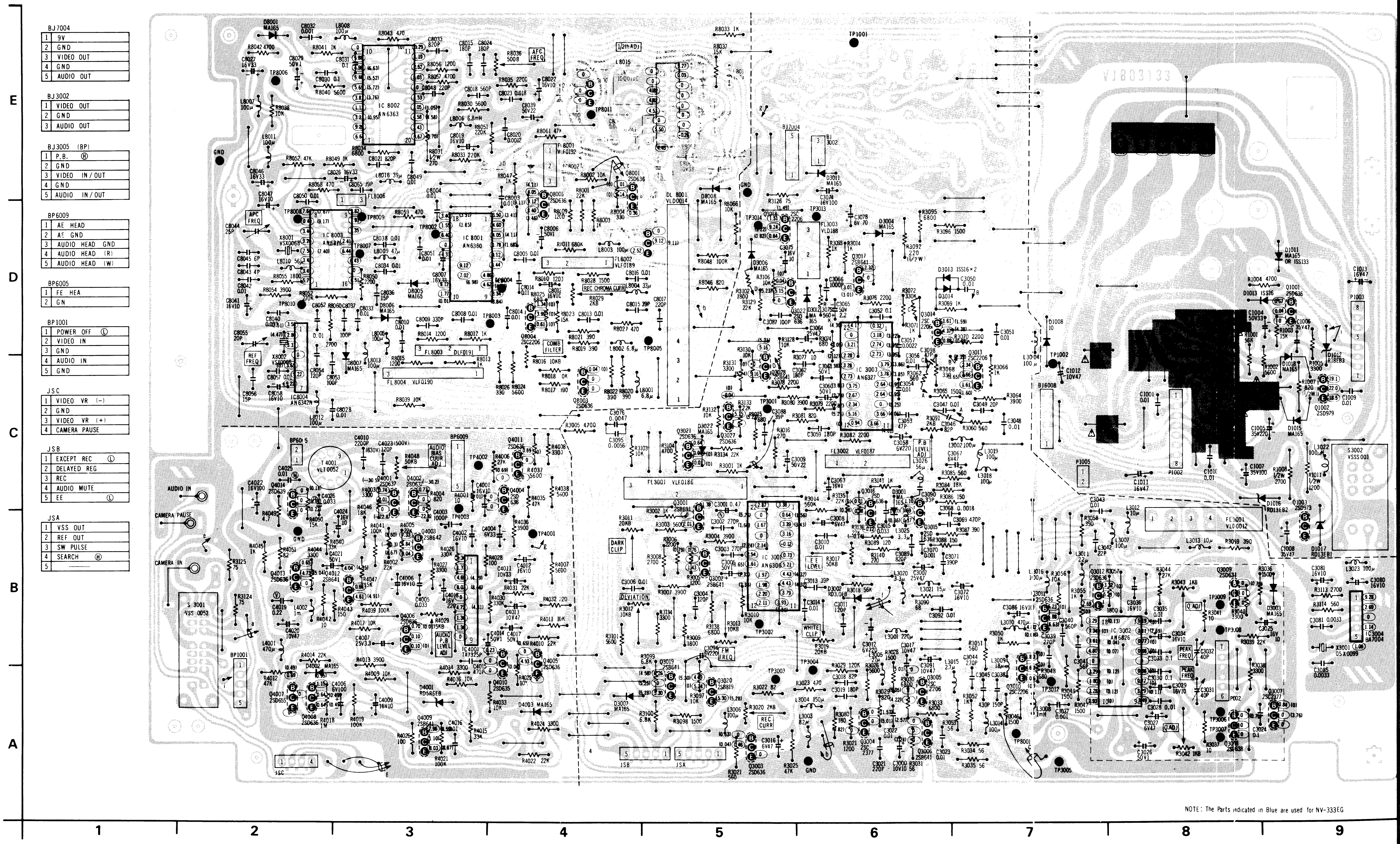
BJ7003	toP7003
1	22V
2	0V
3	36V

P1004	toP6009
1	GND
2	———


POWER TRANSFORMER ⚠
BJ1002
8
7
6
5
4
2
1
3
2
1
BJ7003
F1001 T1A
⚠F1002
VTP0069(NV-300B)

BJ1002	toP1002
1	14V
2	14V
3	———
4	0V
5	22V
6	36V
7	2.65V
8	2.65V

LUMINANCE, CHROMINANCE, AUDIO & POWER SUPPLY BOARD
(NV-333E EO, B: VEP03133A/[illegible] VEP03133B)


E
D
C
B
A
1
2
3
4
5
6
7
8
9
VJB03133
AUDIO IN
CAMERA PAUSE
CAMERA IN
IC 8002 AN6363
IC 8003 AN6362
IC 8001 AN6360
IC 8004 AN6342N
IC 3001 AN6327
IC 3003 AN6306
IC 3002 AN6826
IC 4001 TA7325P
IC 3004 BA7004
DL 8001 VLD0014
FL 8004 VLF0190
FL 8003 DLF0191
FL 3001 VLF0186
FL 3002 VLF0187
FL 3003 VLD188
FL 5001 VLD0012
T 4001 VLT0052
S 3001 VSS 0052
S 3002 VSSS 001
1/2th ADJ
AFC FREQ
APC FREQ
REF FREQ
COMB FILTER
REC CHROMA CURR
AUDIO BIAS CURR ADJ
AUDIO P.B. LEVEL ADJ
DARK CLIP
DEVIATION
E E LEVEL
WHITE CLIP
FM FREQ
REC CURR
P.B LEVEL ADJ
PEAK FREQ
Q ADJ
JSB
JSA
JSC
GND

BJ7004

1	9V
2	GND
3	VIDEO OUT
4	GND
5	AUDIO OUT

BJ3002

1	VIDEO OUT
2	GND
3	AUDIO OUT

BJ3005 (BP)

1	P.B. Ⓗ
2	GND
3	VIDEO IN / OUT
4	GND
5	AUDIO IN / OUT

BP6009

1	AE HEAD
2	AE GND
3	AUDIO HEAD GND
4	AUDIO HEAD (R)
5	AUDIO HEAD (W)

BP6005

1	FE HEA
2	GN

BP1001

1	POWER OFF Ⓛ
2	VIDEO IN
3	GND
4	AUDIO IN
5	GND

JSC

1	VIDEO VR (−)
2	GND
3	VIDEO VR (+)
4	CAMERA PAUSE

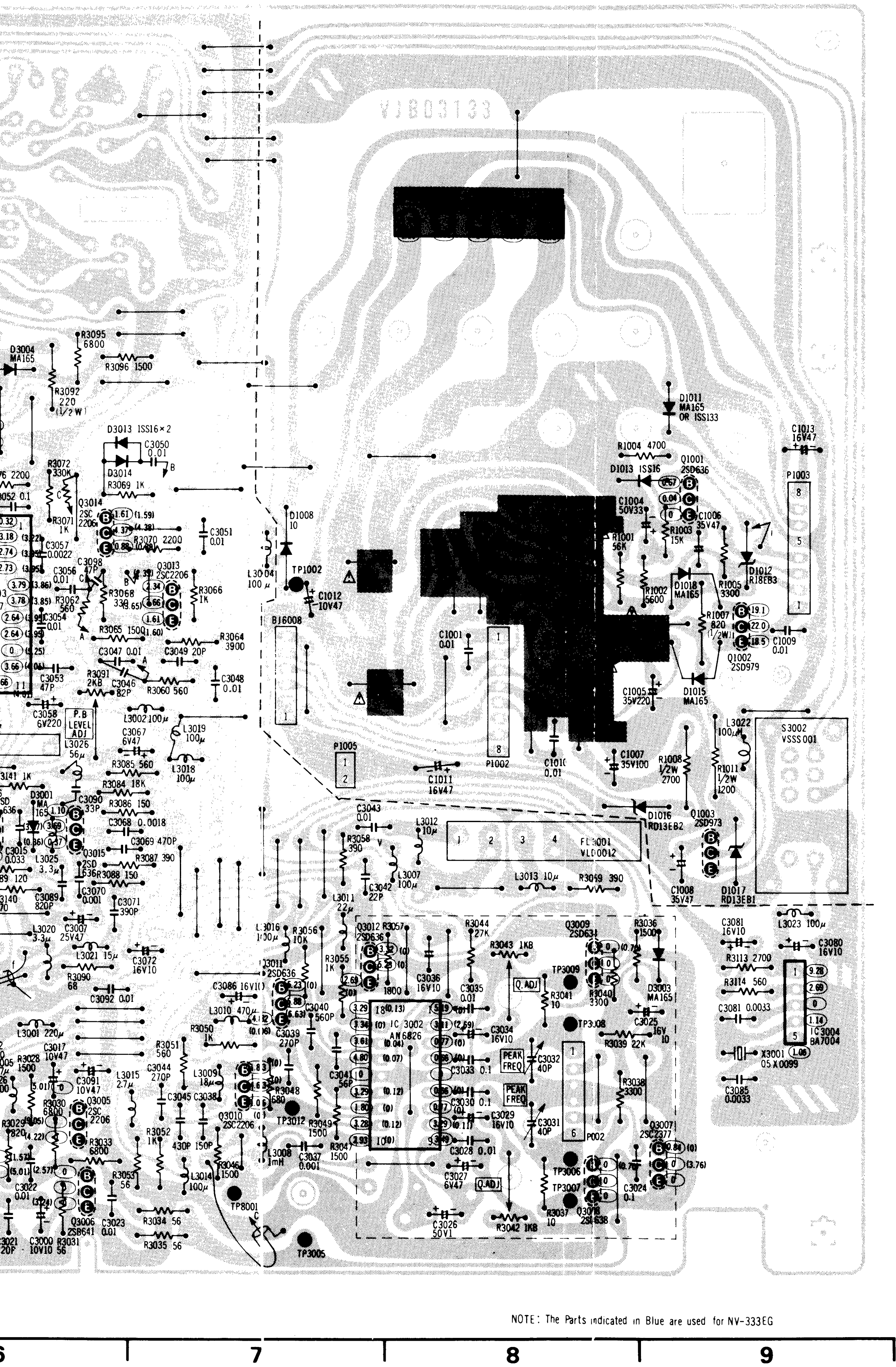
JSB

1	EXCEPT REC Ⓛ
2	DELAYED REG
3	REC
4	AUDIO MUTE
5	EE Ⓛ

JSA

1	VSS OUT
2	REF OUT
3	SW PULSE
4	SEARCH Ⓗ
5	———

NOTE: The Parts indicated in Blue are used for NV-333EG


VJB03133
BJ6008
P1005
P1002
P1003
TP1002
D1008
D1011 MA165 OR ISS133
D1012 RI8EB3
D1015 MA165
D1016 RD13EB2
D1017 RD13EB1
Q1001 2SD636
Q1002 2SD979
Q1003 2SD973
S3002 VSSS001
FL3001 VL0001Z
IC3002 AN6826
IC3004 BA7004
X3001 0SX0099
TP3005
TP3007
TP3008
TP3009
TP3012
TP8001
Q.ADJ
PEAK FREQ
P.B LEVEL ADJ
6
7
8
9

NOTE: The Parts indicated in Blue are used for NV-333EG

BJ 1002

1	AC 14 V
2	AC 14 V
3	———
4	0 V
5	AC 22 V
6	AC 36 V
7	AC 2.65 V
8	AC 2.65 V

P1003

1	CAP 18 V
2	MOTOR 15 V
3	POWER ON, OFF
4	POWER OFF Ⓛ
5	MOTOR GND
6	GND
7	REG 9 V
8	REG 5 V

BJ 6008

1	GND
2	GND
3	AC 2.65 V
4	AC 2.65 V
5	REG 17 V
6	REG -13 V

P 1005

1	GND
2	GND

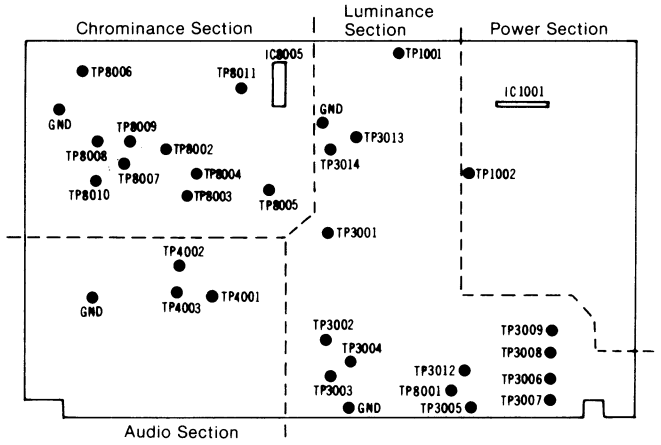
P 3001

1	VIDEO HEAD A
2	VIDEO HEAD A
3	GND
4	GND
5	VIDEO HEAD B
6	VIDEO HEAD B

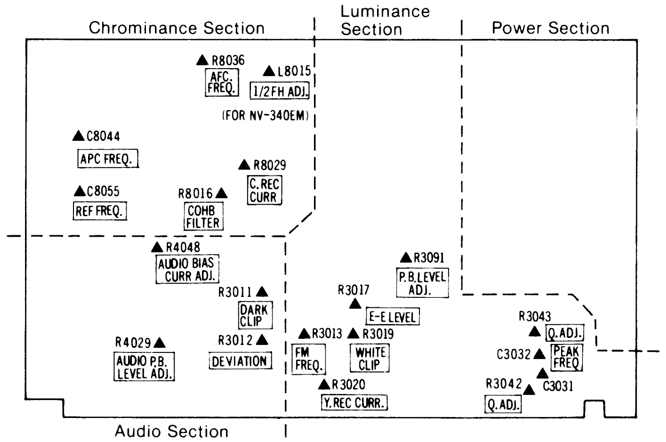
Power, Luminance, Chrominance & Audio C.B.A

Power Section		Chrominance Section	
Q1001	D-9	Q8001	D-4
Q1002	C-9	Q8002	E-4
Q1003	C-9	Q8003	C-4
		Q8004	D-4
IC1001	E-8	Q8005	D-4
		Q8006	D-4
Luminance Section			
Q3001	B-5	IC8001	D-3
Q3002	B-5	IC8002	E-3
Q3003	A-5	IC8003	D-3
Q3004	A-6	IC8004	C-2
Q3005	A-6	IC8005	E-5
Q3006	A-6		
Q3007	A-9	Audio Section	
Q3008	A-8	Q4001	B-3
Q3009	B-8	Q4002	B-3
Q3010	A-7	Q4003	B-3
Q3011	B-7	Q4004	B-4
Q3012	B-7	Q4005	A-4
Q3013	C-7	Q4006	B-3
Q3014	D-6	Q4007	A-2
Q3015	B-6	Q4008	A-2
Q3016	B-6	Q4009	A-3
Q3017	D-6	Q4010	A-5
Q3018	D-5	Q4011	C-4
Q3019	A-5	Q4012	B-3
Q3010	A-5	Q4013	B-2
Q3021	C-5	Q4014	B-2
Q3022	D-5		
Q3027	C-5	IC4001	B-3
Q3028	C-5		
IC3001	B-5		
IC3002	A-8		
IC3003	C-6		
IC3004	B-9		

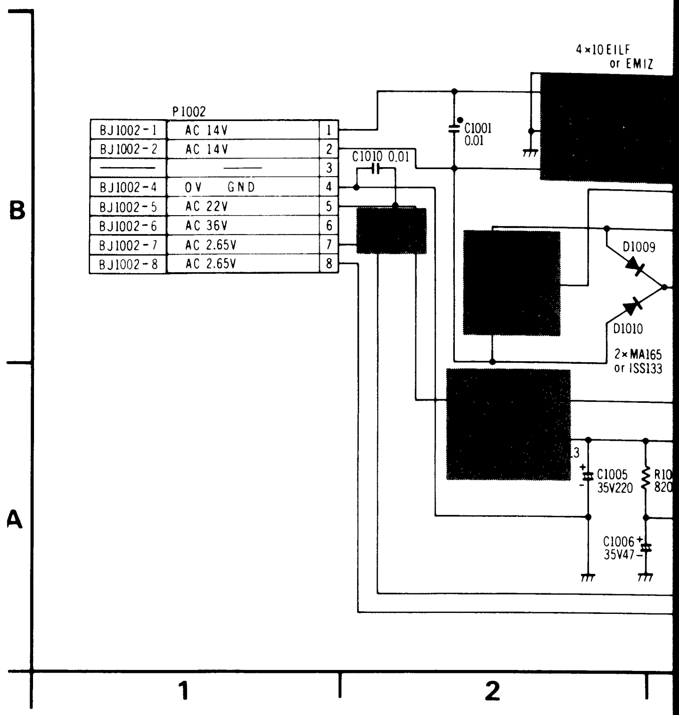
Luminance Chrominance Power & Audio TP


Chrominance Section
Luminance Section
Power Section
IC8005
TP1001
IC1001
TP1002
TP8006
TP8011
GND
TP8009
TP8002
TP8008
TP8007
TP8004
TP8010
TP8003
TP8005
TP3013
TP3014
TP3001
TP4002
TP4001
TP4003
GND
TP3002
TP3004
TP3003
GND
TP3012
TP8001
TP3005
TP3009
TP3008
TP3006
TP3007
Audio Section

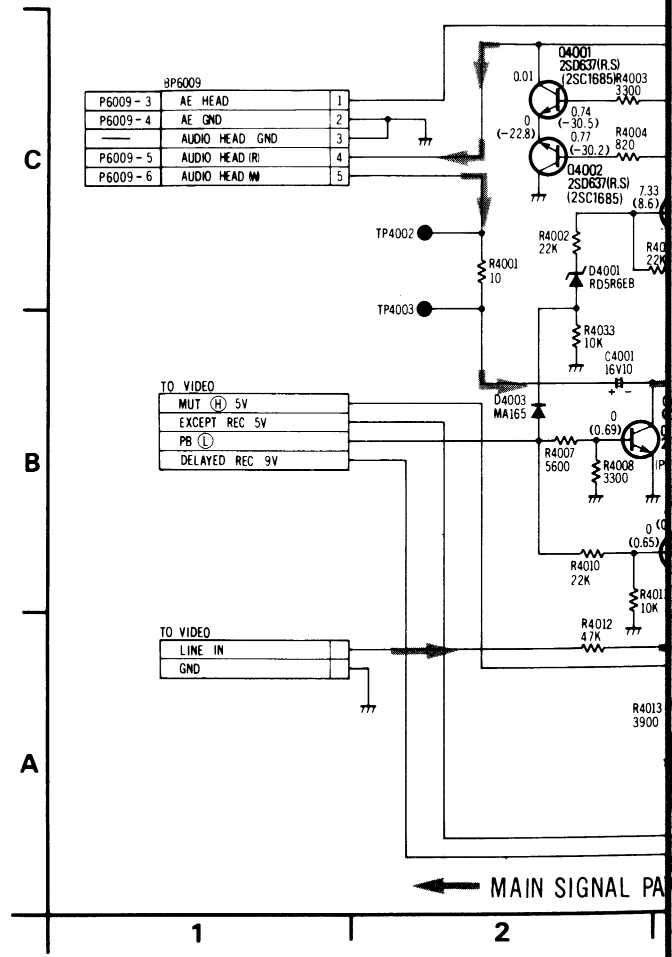
Luminance Chrominance Power & Audio Control


Chrominance Section
Luminance Section
Power Section
R8036
AFC. FREQ.
L8015
1/2FH ADJ.
(FOR NV-340EM)
C8044
APC FREQ.
R8029
C. REC CURR
C8055
REF FREQ.
R8016
COHB FILTER
R4048
AUDIO BIAS CURR ADJ.
R3091
P.B. LEVEL ADJ.
R3011
DARK CLIP
R3017
E-E LEVEL
R4029
AUDIO P.B. LEVEL ADJ.
R3012
DEVIATION
R3013
FM FREQ.
R3019
WHITE CLIP
R3020
Y. REC CURR.
R3043
Q. ADJ.
C3032
PEAK FREQ
R3042
Q. ADJ.
C3031
Audio Section

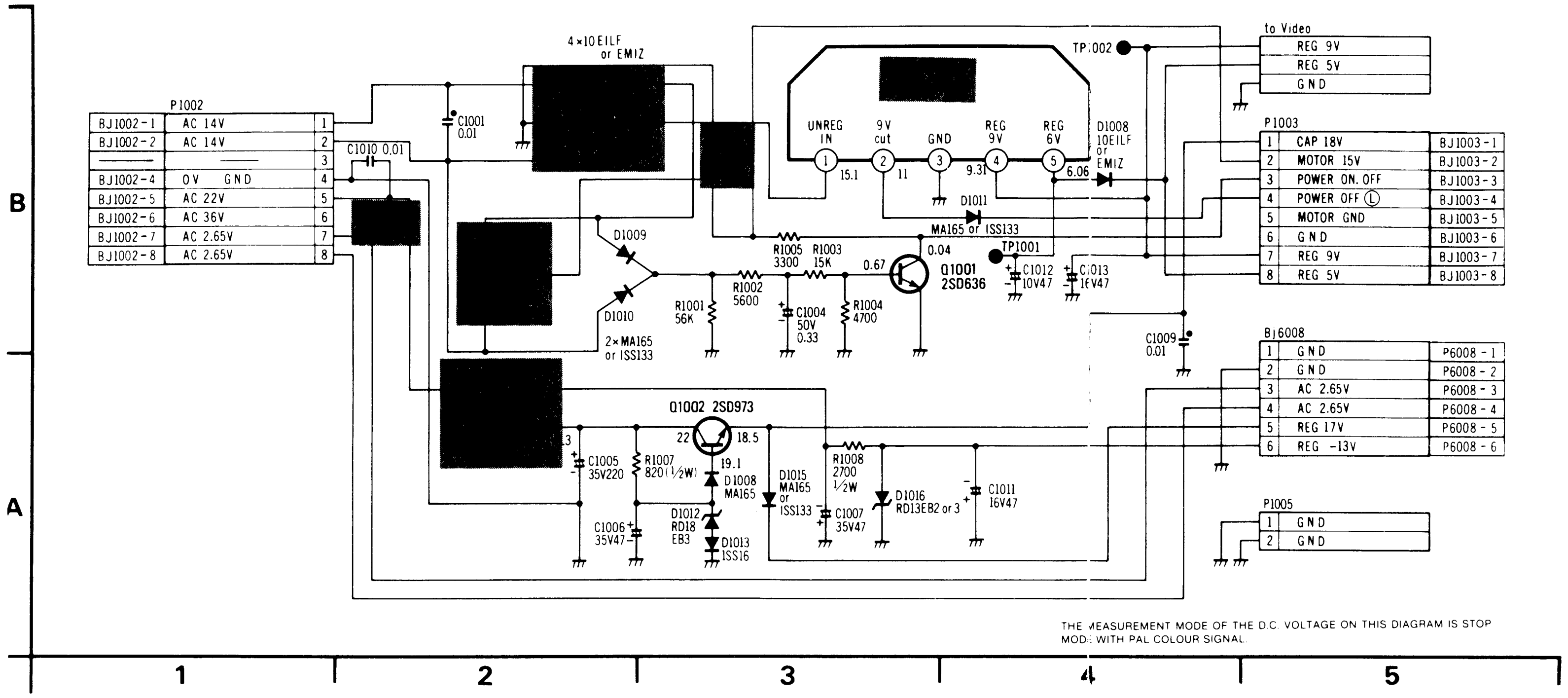
POWER SUPPLY SCHEMAT


P1002
BJ1002-1 AC 14V 1
BJ1002-2 AC 14V 2
——— 3
BJ1002-4 0V GND 4
BJ1002-5 AC 22V 5
BJ1002-6 AC 36V 6
BJ1002-7 AC 2.65V 7
BJ1002-8 AC 2.65V 8
4×10EILF or EMIZ
C1001 0.01
C1010 0.01
D1009
D1010
2×MA165 or ISS133
C1005 35V220
C1006 35V47
B
A
1
2

AUDIO SCHEMATIC DIAGR


BP6009
P6009-3 AE HEAD 1
P6009-4 AE GND 2
——— AUDIO HEAD GND 3
P6009-5 AUDIO HEAD (R) 4
P6009-6 AUDIO HEAD (W) 5
Q4001 2SD637(R.S) (2SC1685)
Q4002 2SD637(R.S) (2SC1685)
R4003 3300
R4004 820
TP4002
TP4003
R4001 10
R4002 22K
D4001 RD5R6EB
R4033 10K
C4001 16V10
TO VIDEO
MUT Ⓗ 5V
EXCEPT REC 5V
PB Ⓛ
DELAYED REC 9V
D4003 MA165
R4007 5600
R4008 3300
R4010 22K
R4012 47K
R4013 3900
TO VIDEO
LINE IN
GND
MAIN SIGNAL PA
C
B
A
1
2

POWER SUPPLY SCHEMATIC DIAGRAM

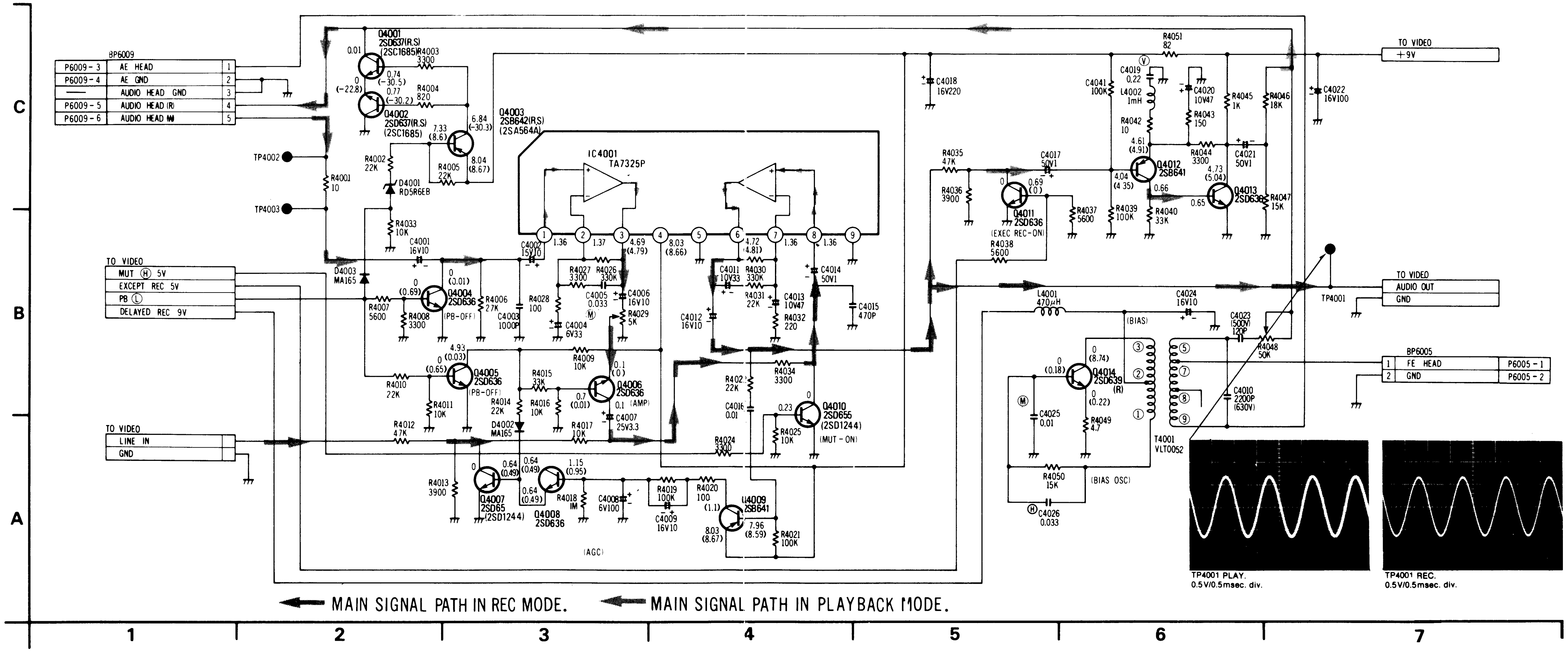

P1002
BJ1002-1 AC 14V
BJ1002-2 AC 14V
BJ1002-4 0V GND
BJ1002-5 AC 22V
BJ1002-6 AC 36V
BJ1002-7 AC 2.65V
BJ1002-8 AC 2.65V
C1010 0.01
4×10EILF or EMIZ
C1001 0.01
UNREG IN
9V cut
GND
REG 9V
REG 6V
15.1
11
9.31
6.06
TP1002
D1008 10EILF or EMIZ
D1011 MA165 or ISS133
D1009
D1010
2×MA165 or ISS133
R1005 3300
R1003 15K
R1001 56K
R1002 5600
C1004 50V 0.33
R1004 4700
0.67
0.04
Q1001 2SD636
TP1001
C1012 10V47
C1013 16V47
C1009 0.01
Q1002 2SD973
22
18.5
19.1
C1005 35V220
R1007 820(½W)
D1008 MA165
D1012 RD18 EB3
D1013 ISS16
C1006 35V47
D1015 MA165 or ISS133
R1008 2700 ½W
C1007 35V47
D1016 RD13EB2 or 3
C1011 16V47
to Video
REG 9V
REG 5V
GND
P1003
1 CAP 18V BJ1003-1
2 MOTOR 15V BJ1003-2
3 POWER ON. OFF BJ1003-3
4 POWER OFF Ⓛ BJ1003-4
5 MOTOR GND BJ1003-5
6 GND BJ1003-6
7 REG 9V BJ1003-7
8 REG 5V BJ1003-8
BJ6008
1 GND P6008-1
2 GND P6008-2
3 AC 2.65V P6008-3
4 AC 2.65V P6008-4
5 REG 17V P6008-5
6 REG -13V P6008-6
P1005
1 GND
2 GND
B
A
1
2
3
4
5

THE MEASUREMENT MODE OF THE D.C. VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL.

Power Supply	
Q1001 Q1002	B-3 A-3
IC1001	B-3

AUDIO SCHEMATIC DIAGRAM

THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRAKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRAKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.


BP6009
P6009-3 AE HEAD
P6009-4 AE GND
AUDIO HEAD GND
P6009-5 AUDIO HEAD (R)
P6009-6 AUDIO HEAD
TP4002
TP4003
Q4001 2SD637(R.S) (2SC1685)
Q4002 2SD637(R.S) (2SC1685)
Q4003 2SB642(R.S) (2SA564A)
R4001 10
R4002 22K
R4003 3300
R4004 820
R4005 22K
D4001 RD5R6EB
R4033 10K
C4001 16V10
IC4001 TA7325P
C4002 15V10
R4027 3300
R4026 330K
C4005 0.033
C4006 16V10
R4029 5K
R4028 100
C4003 1000P
C4004 6V33
C4011 10V33
R4030 330K
R4031 22K
C4013 10V47
R4032 220
C4012 16V10
C4014 50V1
C4015 470P
TO VIDEO
MUT Ⓗ 5V
EXCEPT REC 5V
PB Ⓛ
DELAYED REC 9V
D4003 MA165
R4007 5600
R4008 3300
Q4004 2SD636 (PB-OFF)
R4006 27K
R4010 22K
R4011 10K
Q4005 2SD636 (PB-OFF)
R4009 10K
R4015 33K
R4014 22K
R4016 10K
Q4006 2SD636 (AMP)
C4007 25V3.3
R4017 10K
D4002 MA165
R4012 47K
LINE IN
GND
R4013 3900
Q4007 2SD65 (2SD1244)
Q4008 2SD636
R4018 1M
C4008 6V100
R4019 100K
C4009 16V10
R4020 100
Q4009 2SB641
R4021 100K
(AGC)
R4022 22K
C4016 0.01
R4024 3300
R4034 3300
Q4010 2SD655 (2SD1244)
R4025 10K
(MUT-ON)
C4018 16V220
R4035 47K
R4036 3900
Q4011 2SD636
(EXEC REC-ON)
R4038 5600
C4017 50V1
R4037 5600
R4039 100K
R4040 33K
C4041 100K
C4019 0.22
L4002 1mH
R4042 10
C4020 10V47
R4043 150
R4044 3300
R4045 1K
R4046 18K
C4021 50V1
Q4012 2SB641
Q4013 2SD636
R4047 15K
R4051 82
C4022 16V100
TO VIDEO +9V
L4001 470μH
C4024 16V10
(BIAS)
C4023 500V 120P
R4048 50K
TP4001
TO VIDEO
AUDIO OUT
GND
BP6005
1 FE HEAD P6005-1
2 GND P6005-2
Q4014 2SD639 (R)
C4025 0.01
R4049 4.7
C4010 2200P (630V)
T4001 VLT0052
R4050 15K
(BIAS OSC)
C4026 0.033
C
B
A
1
2
3
4
5
6
7

TP4001 PLAY.
0.5V/0.5msec. div.

TP4001 REC.
0.5V/0.5msec. div.

MAIN SIGNAL PATH IN REC MODE. MAIN SIGNAL PATH IN PLAYBACK MODE.

Audio	
Q4001	C-2
Q4002	C-2
Q4003	C-3
Q4004	B-2
Q4005	B-3
Q4006	B-3
Q4007	A-3
Q4008	A-3
Q4009	A-4
Q4010	A-4
Q4011	B-5
Q4012	C-6
Q4013	C-7
Q4014	B-6
IC4001	C-4

LUMINANCE & CHROMINANCE ICs VOLTAGE CHART

IC3001

MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PAL	PLAY	3.38	0.64	3.39	3.16	−0.12	0.73	5.21	4.43	4.43	3.79	3.93	2.11	2.20	1.98	1.97	1.61	2.54	2.14	0	1.67	0	2.87
	REC	3.38	1.56	3.43	3.16	−0.12	0.73	5.21	4.32	4.32	3.79	3.50	2.11	2.20	2.33	2.32	1.65	2.54	2.24	0	1.60	5.25	2.87
SECAM	PLAY	3.38	0.65	3.43	3.16	−0.12	0.73	5.21	4.43	4.43	3.79	3.93	2.11	2.20	1.98	1.97	1.65	2.54	2.18	0	1.70	0	2.83
	REC	3.38	1.56	3.45	3.18	−0.12	0.73	5.21	4.32	4.32	3.79	3.50	2.11	2.20	2.34	2.34	1.68	2.54	2.29	0	1.61	5.25	2.86

IC3002

MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PAL	PLAY	5.19	3.11	0.77	0.66	0	0.66	0.77	3.29	3.49	2.93	3.28	1.80	3.29	0	4.80	3.61	3.34	3.29
	REC	0	2.69	0	0	0	0	0	0.11	—	0	0.12	0	0.12	0	0.07	0.04	0	0.13
SECAM	PLAY	5.19	3.15	0.76	0.66	0	0.66	0.77	3.29	3.51	2.94	3.28	1.80	3.29	0	4.81	3.65	3.34	3.29
	REC	0	2.74	0	0	0	0	0	0.35	—	0	0.33	0	0.33	0	0.07	0.44	0	0.33

IC3003

MODE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PAL	PLAY	0.32	3.18	2.74	2.73	3.79	3.78	2.64	2.64	0	3.66	3.66	0.94	5.16	2.34	2.67	3.75	2.73	3.28	2.28	3.21	0	4.17
	REC	0.32	3.22	3.95	3.95	3.86	3.85	3.95	3.95	5.25	4.01	4.01	0	5.24	2.87	2.70	3.81	2.73	3.38	2.32	3.05	0	4.30
SECAM	PLAY	0.32	3.18	2.78	2.76	3.79	3.78	2.64	2.64	0	3.66	3.66	0.94	5.16	2.37	2.67	3.75	2.70	3.32	2.39	3.25	0	4.23
	REC	0.32	3.24	3.98	3.98	3.85	3.84	3.99	3.98	5.25	4.05	4.05	0	5.23	2.87	2.70	3.81	2.73	3.43	2.42	3.08	0	4.35

IC3004

MODE		1	2	3	4	5
PAL	PLAY	9.28	2.69	0	1.14	1.06
	REC	9.28	2.69	0	1.14	1.06
SECAM	PLAY	9.28	2.69	0	1.14	1.06
	REC	9.28	2.69	0	1.14	1.06

IC8001

MODE		1	2	3	4	5	6	7	8	9	10	11
PAL	PLAY	3.50	4.60	4.05	1.78	9.12	4.44	4.86	4.62	3.34	1.77	9.12
	REC	3.41	4.60	4.11	1.68	9.12	4.44	4.04	4.42	8.84	0.01	9.12
SECAM	PLAY	3.50	4.51	4.05	1.70	9.12	4.44	4.86	4.62	3.39	1.77	9.12
	REC	3.41	4.60	4.11	1.63	9.12	4.44	4.04	4.42	8.83	0	9.12

IC8002

MODE		1	2	3	4	5	6	7	8	9	10	11
PAL	PLAY	6.64	9.20	3.21	1.13	3.81	5.65	5.46	4.98	5.88	0	0.29
	REC	6.64	9.20	0.95	1.13	3.76	5.72	5.52	4.98	6.63	0	0
SECAM	PLAY	6.64	9.20	3.21	1.13	3.74	5.72	5.52	4.98	5.88	0	0.32
	RECY	6.64	9.20	0.95	1.13	3.53	5.77	5.58	5.02	6.63	0	0.32

IC8003

MODE		1	2	3	4	5	6	7	8	9	10	11
PAL	PLAY	5.77	3.47	3.47	7.55	9.20	3.46	0.40	7.64	7.82	7.91	1.35
	REC	5.77	3.47	3.47	7.40	9.20	3.46	9.17	7.67	7.82	7.91	1.35
SECAM	PLAY	5.77	3.47	3.47	7.52	9.20	3.46	0.40	7.67	7.82	7.91	1.35
	REC	5.77	3.47	3.47	7.52	9.20	3.46	9.17	7.67	7.82	7.91	1.35

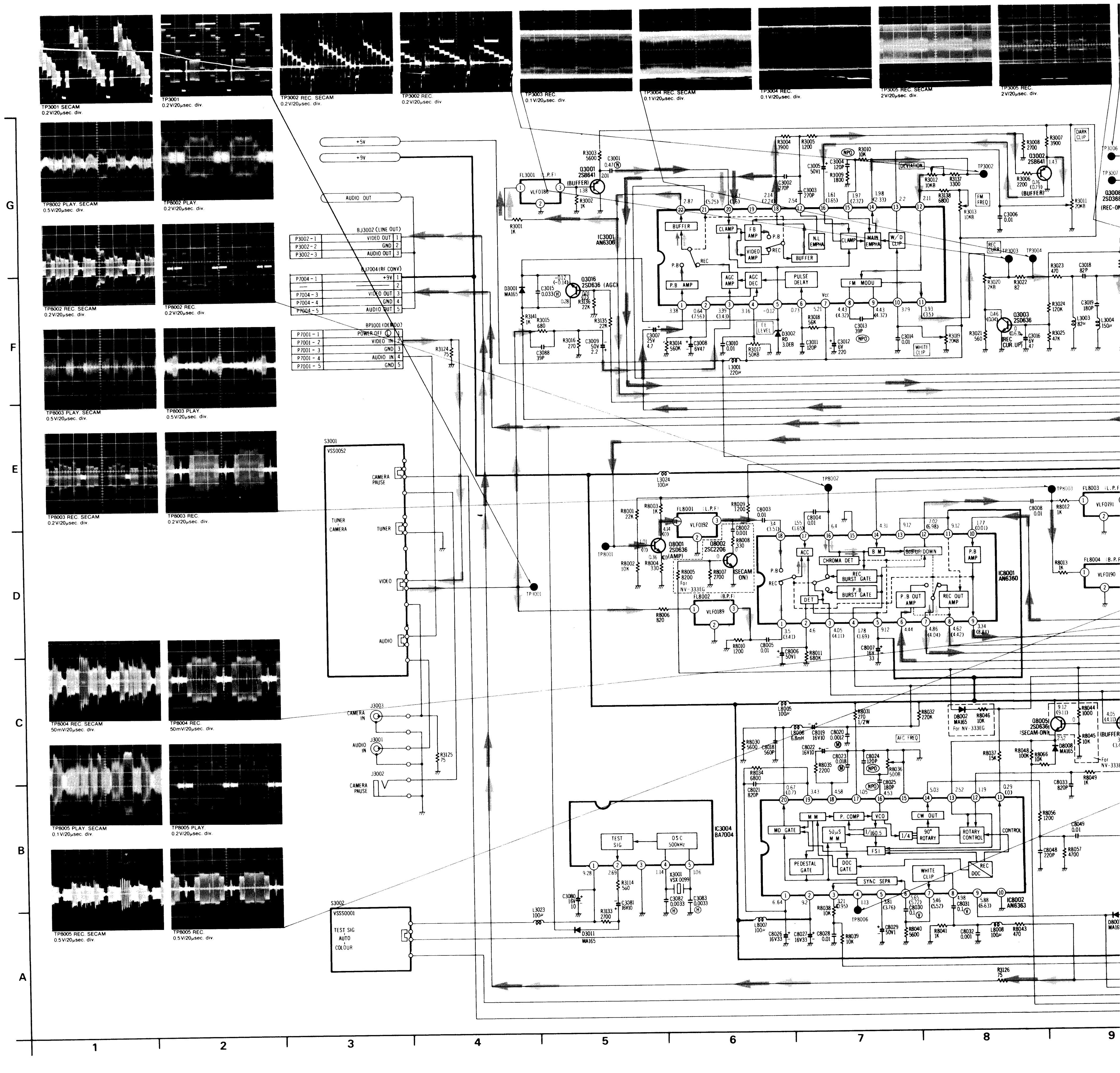
IC8004

MODE		1	2	3	4	5	6	7
PAL	PLAY	3.58	2.80	3.37	0	3.65	9.22	9.22
	REC	2.51	4.47	3.37	0	0	9.22	9.22
SECAM	PLAY	3.58	2.80	3.37	0	3.65	9.22	9.22
	REC	2.51	4.47	3.37	0	5.65	9.22	9.22

IC8005

MODE		1	2	3	4	5	6	7	8	9	10	11
PAL	PLAY	4.45	−0.26	5.50	0	0	0	4.53	0	4.82	0	4.82
	REC	4.45	−0.26	5.50	0	0	0	4.53	0	4.82	0	4.82
SECAM	PLAY	4.47	−0.26	5.50	0	0	0	4.53	0.02	4.77	0	4.77
	REC	4.47	−0.26	5.50	0	0	0	4.53	0.03	4.81	0	4.76

LUMINANCE & CHROMINANCE. SCHEMATIC DIAGRAM



TP3001 SECAM 0.2V/20μsec. div.
TP3001 0.2V/20μsec. div.
TP3002 REC. SECAM 0.2V/20μsec. div.
TP3002 REC. 0.2V/20μsec. div.
TP3003 REC. 0.1V/20μsec. div.
TP3004 REC. SECAM 0.1V/20μsec. div.
TP3004 REC. 0.1V/20μsec. div.
TP3005 REC. SECAM 2V/20μsec. div.
TP3005 REC. 2V/20μsec. div.
TP8002 PLAY. SECAM 0.5V/20μsec. div.
TP8002 PLAY. 0.2V/20μsec. div.
TP8002 REC. SECAM 0.2V/20μsec. div.
TP8002 REC. 0.2V/20μsec. div.
TP8003 PLAY. SECAM 0.5V/20μsec. div.
TP8003 PLAY. 0.5V/20μsec. div.
TP8003 REC. SECAM 0.2V/20μsec. div.
TP8003 REC. 0.2V/20μsec. div.
TP8004 REC. SECAM 50mV/20μsec. div.
TP8004 REC. 50mV/20μsec. div.
TP8005 PLAY. SECAM 0.1V/20μsec. div.
TP8005 PLAY. 0.2V/20μsec. div.
TP8005 REC. SECAM 0.5V/20μsec. div.
TP8005 REC. 0.5V/20μsec. div.
+5V
+9V
AUDIO OUT
BJ3002 (LINE OUT)
VIDEO OUT
GND
AUDIO OUT
BJ7004 (RF CONV)
BP1001 (DEMOD)
POWER OFF
VIDEO IN
AUDIO IN
S3001 VSS0052
CAMERA PAUSE
TUNER
CAMERA
VIDEO
AUDIO
J3003 CAMERA IN
J3001 AUDIO IN
J3002 CAMERA PAUSE
S3002 VSS0001
TEST SIG
AUTO
COLOUR
IC3001 AN6306
IC3004 BA7004
TEST SIG
OSC 500kHz
IC8001 AN6360
IC8002 AN6363
Q3001 2SB641 (BUFFER)
Q3002 2SB641 (BUFFER)
Q3003 2SD636
Q3016 2SD636 (AGC)
Q8001 2SD636 (AMP)
Q8002 2SC2206 (SECAM ON)
Q8005 2SD636 (SECAM ON)
BUFFER
CLAMP
P.B AMP
VIDEO AMP
N.L EMPHA
MAIN EMPHA
W/D CLIP
DEVIATION
AGC AMP
AGC DEC
PULSE DELAY
FM MODU
DARK CLIP
WHITE CLIP
ACC
CHROMA DET
B M
REC BURST GATE
P.B BURST GATE
DET
P.B OUT AMP
REC OUT AMP
MD GATE
M M
P. COMP
VCO
CW OUT
ROTARY CONTROL
PEDESTAL GATE
DOC GATE
SYNC SEPA
DOC
FSI
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9

IC8001

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
4.05	1.78	9.12	4.44	4.86	4.62	3.34	1.77	9.12	7.02	9.12	4.31	0	6.40	1.55	3.40
4.11	1.68	9.12	4.44	4.04	4.42	8.84	0.01	9.12	6.98	9.12	4.31	0	6.40	1.65	3.51
4.05	1.70	9.12	4.44	4.86	4.62	3.39	1.77	9.12	7.08	9.12	4.31	0	6.40	1.57	3.40
4.11	1.63	9.12	4.44	4.04	4.42	8.83	0	9.12	6.97	9.12	4.31	0	6.40	1.65	3.51

IC8002

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
3.21	1.13	3.81	5.65	5.46	4.98	5.88	0	0.29	1.19	2.52	5.03	0	4.53	1.05	4.58	3.43	0.67
0.95	1.13	3.76	5.72	5.52	4.98	6.63	0	0	1.19	2.52	5.03	0	4.53	1.05	4.58	3.43	0.70
3.21	1.13	3.74	5.72	5.52	4.98	5.88	0	0.32	1.19	7.09	5.03	0	4.53	1.05	4.61	3.43	0.70
0.95	1.13	3.53	5.77	5.58	5.02	6.63	0	0.32	1.19	7.11	5.03	0	4.53	1.05	4.95	3.43	0.70

IC8003

3	4	5	6	7	8	9	10	11	12	13	14	15	16
3.47	7.55	9.20	3.46	0.40	7.64	7.82	7.91	1.35	2.41	6.44	6.43	0	6.51
3.47	7.40	9.20	3.46	9.17	7.67	7.82	7.91	1.35	2.41	6.44	6.43	0	6.51
3.47	7.52	9.20	3.46	0.40	7.67	7.82	7.91	1.35	7.90	6.44	6.43	0	6.45
3.47	7.52	9.20	3.46	9.17	7.67	7.82	7.91	1.35	7.90	6.44	6.43	0	6.47

IC8004

3	4	5	6	7
3.37	0	3.65	9.22	9.22
3.37	0	0	9.22	9.22
3.37	0	3.65	9.22	9.22
3.37	0	5.65	9.22	9.22

IC8005

3	4	5	6	7	8	9	10	11	12	13	14	15	16
5.50	0	0	0	4.53	0	4.82	0	4.82	0	0	0.03	0	9.27
5.50	0	0	0	4.53	0	4.82	0	4.82	0	0	—	0	9.27
5.50	0	0	0	4.53	0.02	4.77	0	4.77	4.62	0	4.57	8.47	9.24
5.50	0	0	0	4.53	0.03	4.81	0	4.76	4.63	0	4.57	8.47	9.24

LUMINANCE & CHROMINANCE TRANSISTORs VOLTAGE CHAR

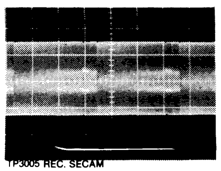
REF. NO. / MODE		Q3001			Q3002			Q3003			Q3004			Q3005		
		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	2.01	0	1.38	1.43	0	0.76	0	0.46	0	0	0	0	0	0	0
	REC	2.01	0	1.38	1.43	0	0.79	0	0.04	0.63	0.82	5.01	1.57	4.22	9.05	5.01
SECAM	PLAY	1.99	0	1.36	1.41	0	0.77	0	0.46	0	0	0	0	0.01	0	0
	REC	2.01	0	1.38	1.45	0	0.81	0	0.04	0.64	0.81	4.99	1.56	4.23	9.04	4.99

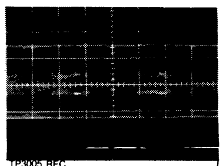
REF. NO. / MODE		Q3007			Q3008			Q3009			Q3010			Q3011		
		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0	0	0.84	0	0	0	0	0	0	1.06	4.63	1.83	4.82	5.88	5.23
	REC	0	3.76	0	0	0	0.70	0	0	0.70	0	0	0	0.06	6.63	0
SECAM	PLAY	0	0.01	0.83	0	0	0	0	0	0	1.09	4.63	1.83	4.82	5.88	5.23
	REC	0	3.74	0	0	0	0.70	0	0	0.70	0	0	0	0.05	6.62	0

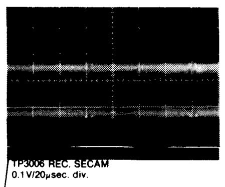
REF. NO. / MODE		Q3013			Q3014			Q3015			Q3016			Q3017		
		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	1.61	3.66	2.34	0.88	4.37	1.61	0.37	3.69	1.10	−0.12	0.28	0.01	3.01	0	2.32
	REC	1.60	3.65	2.33	0.89	4.38	1.59	0.36	3.67	1.10	−0.14	0.28	0	3.01	0	2.32
SECAM	PLAY	1.59	3.64	2.32	0.89	4.37	1.59	0.36	3.66	1.10	−0.12	0.29	0	3.08	0	2.39
	REC	1.60	3.65	2.33	0.90	4.37	1.60	0.36	3.65	1.10	−0.13	0.29	0	3.11	0	2.42

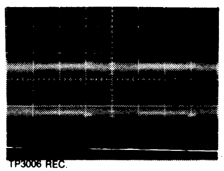
REF. NO. / MODE		Q3019			Q3020			Q3021			Q3022			Q3027		
		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	5.30	0	5.26	5.30	5.24	4.59	0.01	0.01	0.64	0	5.15	−0.04	0	5.15	−0.04
	REC	5.28	5.25	4.58	5.28	0	5.30	0	0	0.64	0	5.23	0	0	5.23	0
SECAM	PLAY	5.26	0	5.26	5.25	5.24	4.58	0	0	0.64	0	5.15	0	0	5.15	−0.04
	REC	5.29	5.24	4.60	5.28	0	5.28	0	0.01	0.64	0	5.22	0	0	5.22	0

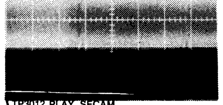
REF. NO. / MODE		Q8001			Q8002			Q8003			Q8004			Q8005		
		E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PAL	PLAY	0.36	4.14	1.01	0	0	0	0	0	0.04	0.61	3.99	1.34	2.52	9.12	0
	REC	0	0	0	0	0	0	0	0	0	0	0	0	2.52	9.11	0
SECAM	PLAY	0.36	4.12	1.01	0	0.01	0.75	0	0	0.68	0.61	3.98	1.34	7.11	9.11	7.69
	REC	0	0	0	0	0.01	0.75	0	0	0.68	0	0	0	7.09	9.12	7.69

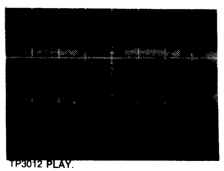

TP3005 REC. SECAM
2V/20μsec. div.

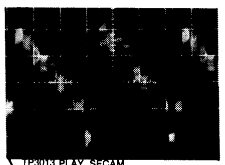

TP3005 REC.
2V/20μsec. div.

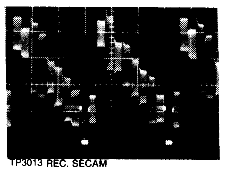

TP3006 REC. SECAM
0.1V/20μsec. div.

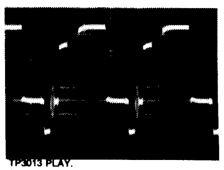

TP3006 REC.
0.1V/20μsec. div.

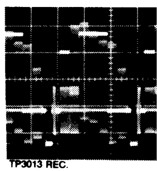

TP3012 PLAY. SECAM
0.1V/5msec. div.

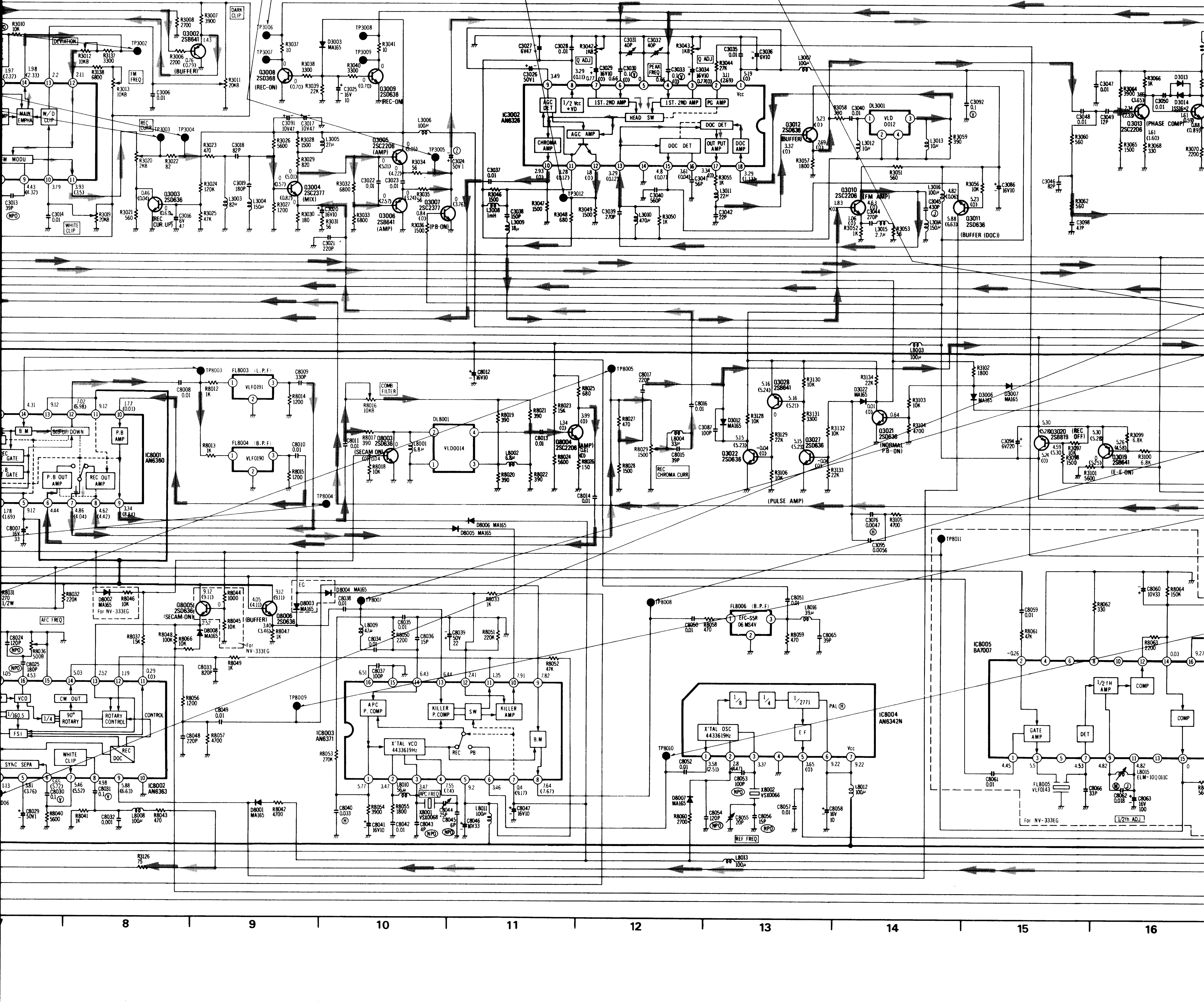

TP3012 PLAY.
0.1V/5msec. div.


TP3013 PLAY. SECAM
0.5V/20μsec. div.


TP3013 REC. SECAM
0.5V/20μsec. div.


TP3013 PLAY.
0.5V/20μsec. div.

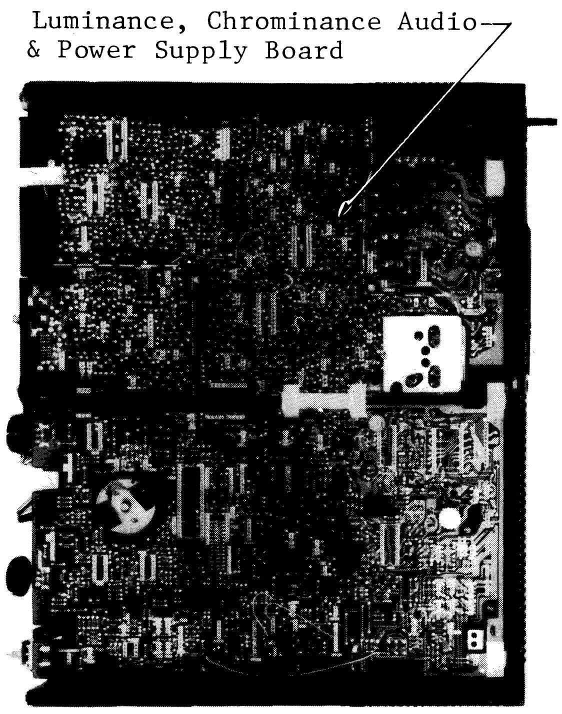

TP3013 REC.
0.5V/20μsec. div.



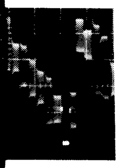
IC3002 AN6326
IC8001 AN6360
IC8002 AN6363
IC8003 AN6371
IC8004 AN6342N
IC8005 BA7007
Q3002 2SB641 (BUFFER)
Q3003 2SD636 (REC CUR UP)
Q3004 2SC2377 (MIX)
Q3005 2SC2206 (AMP)
Q3006 2SB641 (AMP)
Q3007 2SC2377 (PB-ON)
Q3008 2SD368 (REC-ON)
Q3009 2SD638 (REC-ON)
Q3010 2SC2206 (FM AMP)
Q3011 2SD636 (BUFFER (DOC))
Q3012 2SD636 (BUFFER)
Q3013 2SC2206 (PHASE COMP)
Q3019 2SB641 (E-E ON)
Q3020 2SB819 (REC OFF)
Q3021 2SD636 (NORMAL PB-ON)
Q3022 2SD636
Q3027 2SD636
Q3028 2SB641
Q8003 2SD636 (SECAM ON)
Q8004 2SC2206 (AMP)
Q8005 2SD636 (SECAM-ON)
Q8006 2SD636 (BUFFER)
FL8003 (L.P.F) VLF0191
FL8004 (B.P.F) VLF0190
FL8005 VLF0143
FL8006 (B.P.F) TFC-S5R 06 MS4V
DL8001 VLD0014
DL3001 VLD 0012
X8001 VSX0068
X8002 VSX0066
DEVIATION
DARK CLIP
FM FREQ
WHITE CLIP
MAIN EMPHA
W/D CLIP
FM MODU
REC CUR
Q ADJ
PEAK FREQ
AGC DET
1/2 Vcc +VD
1ST. 2ND AMP
PG AMP
HEAD SW
CHROMA AMP
AGC AMP
DOC DET
OUT PUT AMP
DOC AMP
COMB FILTER
REC CHROMA CURR
(PULSE AMP)
AFC FREQ
REF FREQ
1/2th ADJ
For NV-333EG
TP3002
TP3003
TP3004
TP3005
TP3006
TP3007
TP3008
TP3009
TP8003
TP8004
TP8005
TP8006
TP8007
TP8008
TP8009
TP8010
TP8011
8
9
10
11
12
13
14
15
16

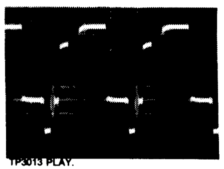
TRANSISTORs VOLTAGE CHART

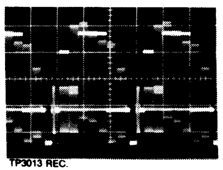
Q3003			Q3004			Q3005			Q3006		
	C	B	E	C	B	E	C	B	E	C	B
	0.46	0	0	0	0	0	0	0	0	0	0
	0.04	0.63	0.82	5.01	1.57	4.22	9.05	5.01	3.24	0	2.57
	0.46	0	0	0	0	0.01	0	0	0.01	0	0
	0.04	0.64	0.81	4.99	1.56	4.23	9.04	4.99	3.25	0	2.57
Q3009			Q3010			Q3011			Q3012		
	C	B	E	C	B	E	C	B	E	C	B
	0	0	1.06	4.63	1.83	4.82	5.88	5.23	2.69	5.23	3.32
	0	0.70	0	0	0	0.06	6.63	0	0	0	0
	0	0	1.09	4.63	1.83	4.82	5.88	5.23	2.69	5.23	3.32
	0	0.70	0	0	0	0.05	6.62	0	0	0	0
Q3015			Q3016			Q3017			Q3018		
	C	B	E	C	B	E	C	B	E	C	B
7	3.69	1.10	−0.12	0.28	0.01	3.01	0	2.32	0.84	9.24	1.51
6	3.67	1.10	−0.14	0.28	0	3.01	0	2.32	0.82	9.22	1.49
6	3.66	1.10	−0.12	0.29	0	3.08	0	2.39	0.84	9.23	1.53
6	3.65	1.10	−0.13	0.29	0	3.11	0	2.42	0.87	9.23	1.55
Q3021			Q3022			Q3027			Q3028		
	C	B	E	C	B	E	C	B	E	C	B
1	0.01	0.64	0	5.15	−0.04	0	5.15	−0.04	5.16	0	5.16
	0	0.64	0	5.23	0	0	5.23	0	5.24	0	5.21
	0	0.64	0	5.15	0	0	5.15	−0.04	5.16	0	5.16
	0.01	0.64	0	5.22	0	0	5.22	0	5.22	0	5.22
Q8003			Q8004			Q8005			Q8006		
	C	B	E	C	B	E	C	B	E	C	B
	0	0.04	0.61	3.99	1.34	2.52	9.12	0	3.40	9.12	4.05
	0	0	0	0	0	2.52	9.11	0	3.46	9.11	4.11
	0	0.68	0.61	3.98	1.34	7.11	9.11	7.69	7.75	9.11	4.04
	0	0.68	0	0	0	7.09	9.12	7.69	7.75	9.12	4.10

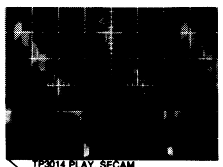

Luminance, Chrominance Audio & Power Supply Board

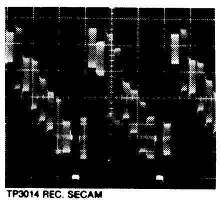
Luminance, Chrominance	
Q3001	G-5
Q3002	G-9
Q3003	F-8
Q3004	F-9
Q3005	F-10
Q3006	F-10
Q3007	F-11
Q3008	G-9
Q3009	G-10
Q3010	F-14
Q3011	F-14
Q3012	G-13
Q3013	G-16
Q3014	G-16
Q3015	E-18
Q3016	F-5
Q3017	E-20
Q3018	E-21
Q3019	D-16
Q3020	D-15
Q3021	D-14
Q3022	D-13
Q3027	D-13
Q3028	D-13
Q8001	D-5
Q8002	D-6
Q8003	D-10
Q8004	D-12
Q8005	C-9
Q8006	C-9
IC3001	G-6
IC3002	G-12
IC3003	G-18
IC3004	B-5
IC8001	D-7
IC8002	B-7
IC8003	B-10
IC8004	B-13
IC8005	B-16

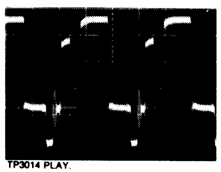


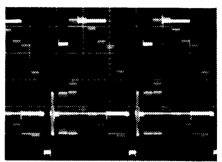

TP3013 PLAY.
0.5V/20μsec. div.

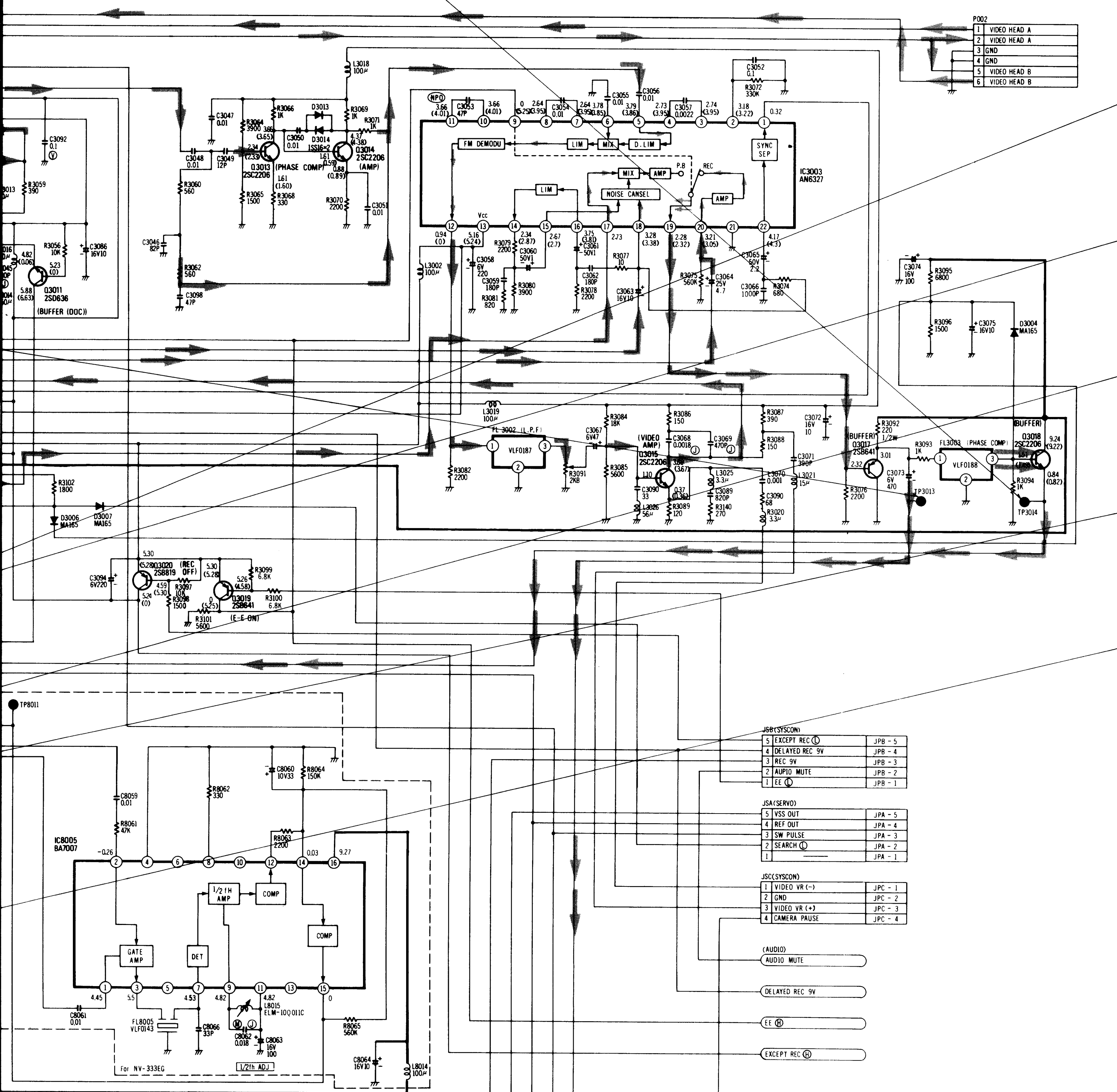

TP3013 REC.
0.5V/20μsec. div.


TP3014 PLAY. SECAM
0.2V/20μsec. div.


TP3014 REC. SECAM
0.2V/20μsec. div.


TP3014 PLAY.
0.2V/20μsec. div


TP3014 REC.
0.2V/20μsec. div.


IC3003
AN6327
FM DEMODU
LIM
MIX
D.LIM
NOISE CANSEL
AMP
SYNC SEP
REC
P.B
Vcc
NPO
Q3013 2SC2206 (PHASE COMP)
Q3014 2SC2206 (AMP)
Q3011 2SD636 (BUFFER (DOC))
Q3015 2SC2206 (VIDEO AMP)
Q3017 2SB641 (BUFFER)
Q3018 2SC2206 (BUFFER)
Q3020 2SB819 (REC OFF)
Q3019 2SB641 (E-E ON)
FL3002 (L.P.F) VLF0187
FL3003 (PHASE COMP) VLF0188
TP3013
TP3014
TP8011
IC8005
BA7007
GATE AMP
DET
1/2 H AMP
COMP
FL8005 VLF0143
L8015 ELM-10Q011C
For NV-333EG
1/2h ADJ

P002

1	VIDEO HEAD A
2	VIDEO HEAD A
3	GND
4	GND
5	VIDEO HEAD B
6	VIDEO HEAD B

JSB(SYSCON)

5	EXCEPT REC Ⓛ	JPB - 5
4	DELAYED REC 9V	JPB - 4
3	REC 9V	JPB - 3
2	AUPIO MUTE	JPB - 2
1	EE Ⓛ	JPB - 1

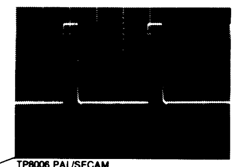
JSA(SERVO)

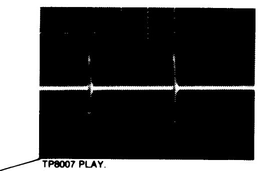
5	VSS OUT	JPA - 5
4	REF OUT	JPA - 4
3	SW PULSE	JPA - 3
2	SEARCH Ⓛ	JPA - 2
1	———	JPA - 1

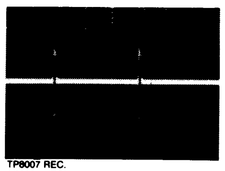
JSC(SYSCON)

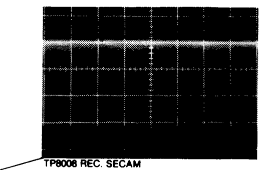
1	VIDEO VR (−)	JPC - 1
2	GND	JPC - 2
3	VIDEO VR (+)	JPC - 3
4	CAMERA PAUSE	JPC - 4

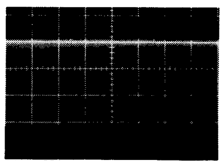
(AUDIO)
AUDIO MUTE
DELAYED REC 9V
EE Ⓗ
EXCEPT REC Ⓗ

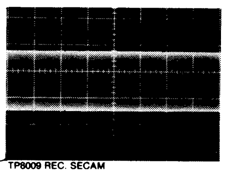

TP8006 PAL/SECAM
2V/20μsec. div.

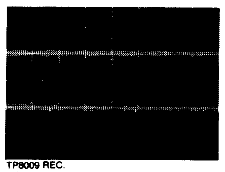

TP8007 PLAY.
0.5V/20μsec. div.

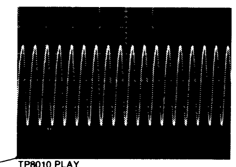

TP8007 REC.
0.5V/20μsec. div.


TP8008 REC. SECAM
0.5V/20μsec. div.


TP8008 REC.
0.5V/20μsec. div.


TP8009 REC. SECAM
0.5V/20μsec. div.


TP8009 REC.
0.5V/20μsec. div.

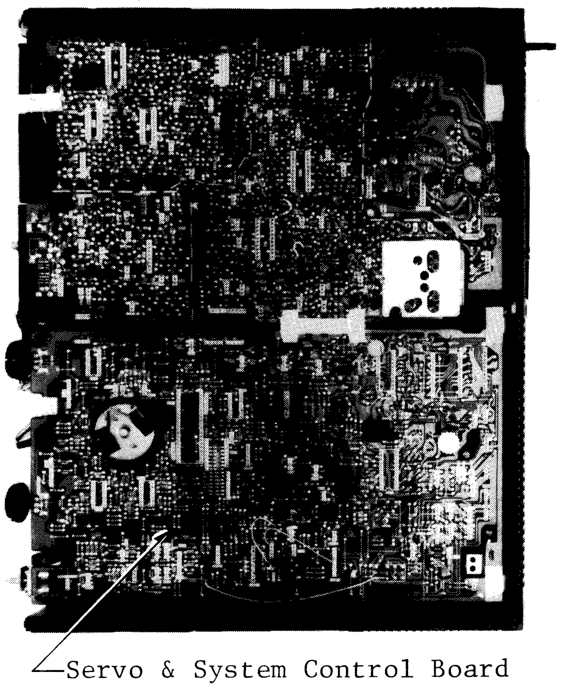

TP8010 PLAY.
0.5V/0.5μsec. div.

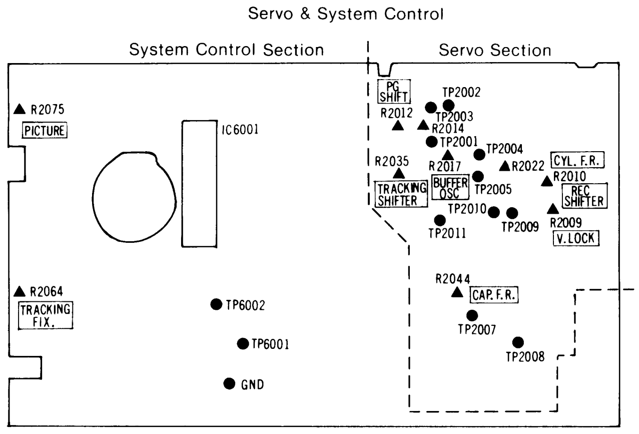
THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRAKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRAKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

← MAIN SIGNAL PATH IN REC MODE.

← MAIN SIGNAL PATH IN PLAYBACK MODE.

15 16 17 18 19 20 21 22 23


Servo & System Control Board

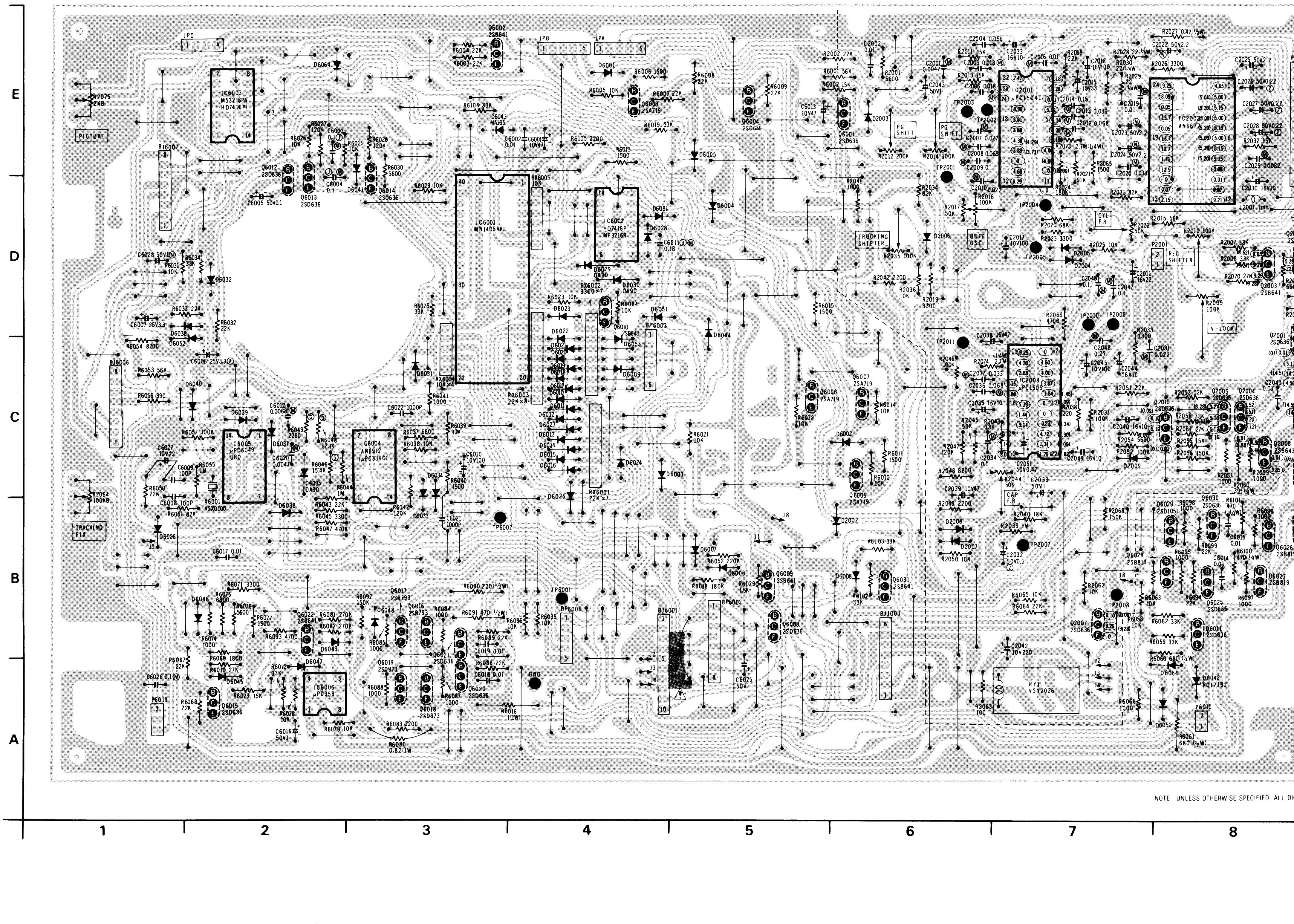

Servo & System Control
System Control Section
Servo Section
R2075
PICTURE
IC6001
R2064
TRACKING FIX.
TP6002
TP6001
GND
PG SHIFT
TP2002
R2012
TP2003
R2014
TP2001
TP2004
R2035
R2017
R2022
CYL. F.R.
R2010
TRACKING SHIFTER
BUFFER OSC
TP2005
REC SHIFTER
TP2010
TP2009
R2009
TP2011
V. LOCK
R2044
CAP. F.R.
TP2007
TP2008

Servo & System Control C.B.A.	
Servo Section	
Q2001	C-8
Q2002	D-8
Q2003	D-8
Q2004	C-8
Q2005	C-8
Q2006	C-8
Q2007	C-8
Q2008	C-8
Q2009	B-7
Q2010	C-8
IC2001	E-7
IC2002	E-8
IC2003	C-7
System Control Section	
Q6001	E-5
Q6002	E-3
Q6003	E-4
Q6004	E-5
Q6005	C-5
Q6006	C-5
Q6007	C-6
Q6008	B-5
Q6009	B-5
Q6010	D-4
Q6011	B-8
Q6012	D-2
Q6013	D-2
Q6014	D-3
Q6015	A-2
Q6016	B-3
Q6017	B-3
Q6018	A-3
Q6019	A-3
Q6020	A-3
Q6021	B-3
Q6022	B-2
Q6023	B-8
Q6024	C-8
Q6025	B-8
Q6026	B-8
Q6027	B-8
Q6028	B-8
Q6029	B-8
Q6030	B-8
Q6031	B-6
IC6001	D-3
IC6002	D-4
IC6003	E-2
IC6004	C-3
IC6005	C-2
IC6006	A-2

SYSTEM CONTROL ICs VOLTAGE CHART

REF. NO.	IC6001											
MODE	1	2	3	4	5	6	7	8	9	10	11	12
STOP	0.01	5.08	0.09	0.09	0.30	0.20	0.10	0.15	0.05	0.15	5.03	4.87
REC	0.01	5.11	0.09	0.09	0.30	5.18	0.10	0.15	5.12	5.09	5.03	4.87
PLAY	0.01	5.08	0.09	0.09	0.30	5.18	0.10	0.15	0.05	0.15	0.13	4.87
F.F	0.01	5.08	0.09	0.09	0.30	0.20	0.10	0.15	0.05	0.15	5.03	4.35
REW	0.01	5.08	0.09	0.09	0.30	0.20	0.10	0.15	1.05	0.15	5.03	4.35
REF. NO.	IC6001											
MODE	21	22	23	24	25	26	27	28	29	30	31	32
STOP	0.43	0.12	0.13	0.13	0.13	0	5.22	5.26	0.04	2.65	0.08	0.16
REC	0.43	0.12	0.13	4.30	0.13	0	5.22	5.26	0.04	2.65	0.08	0.16
PLAY	0.43	0.12	0.13	4.27	0.13	0	5.22	5.26	0.04	2.65	0.08	0.16
F.F	1.22	0.12	0.13	4.31	0.13	0	5.22	5.26	0.04	2.65	0.08	0.16
REW	1.22	0.12	0.13	0.13	4.32	0	5.22	5.26	0.04	2.65	0.08	5.15
REF. NO.	IC6002											
MODE	1	2	3	4	5	6	7	8	9	10	11	12
STOP	0.15	13.5	0.51	0.05	4.63	0.07	0	8.65	0.51	7.37	0.18	9.27
REC	0.15	13.5	0.51	0.05	4.63	0.07	0	8.65	0.51	3.02	0.18	0.13
PLAY	0.15	13.5	0.51	0.05	4.63	0.07	0	8.65	0.51	3.02	0.18	9.27
F.F	0.15	13.5	1.01	0.05	3.65	0.07	0	7.70	1.00	7.45	0.18	9.27
REW	0.15	13.5	1.01	0.05	3.65	0.07	0	7.70	1.00	7.45	0.18	9.27
REF. NO.	IC6003											
MODE	1	2	3	4	5	6	7	8	9	10	11	12
STOP	0.16	7.95	0.16	7.96	0.16	7.96	0	9.27	0.16	9.25	0.22	0.05
REC	0.16	7.95	0.16	1.46	0	1.45	0	0.16	5.20	0.14	4.72	0.05
PLAY	0.16	7.95	0.16	7.96	0.16	7.96	0	9.27	0.16	0.13	4.71	5.25
F.F	0.16	7.95	5.17	0.13	0.16	1.21	0	9.27	0.16	9.25	0.21	0.06
REW	0.16	7.95	0.16	1.15	5.15	0.12	0	9.27	0.16	9.25	0.21	0.06
REF. NO.	IC6004											
MODE	1	2	3	4	5	6	7	8	9	10	11	12
STOP	0.04	0.13	5.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0
REC	0.04	0.13	5.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0
PLAY	0.04	0.13	5.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0
F.F	0.04	0.13	5.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0
REW	0.04	0.13	5.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0
REF. NO.	IC6005											
MODE	1	2	3	4	5	6	7	8	9	10	11	12
STOP	0.78	5.26	5.19	0	0.09	5.26	0	2.62	2.67	2.67	2.52	5.27
REC	0.78	5.26	5.19	0	0.09	5.26	0	2.62	2.67	2.67	2.52	5.27
PLAY	0.78	5.26	5.19	0	0.09	5.26	0	2.62	2.67	2.67	2.52	5.27
F.F	0.78	5.26	5.14	0	0.23	5.26	0	2.62	2.67	2.67	2.52	5.27
REW	0.78	5.26	5.14	0	0.23	5.26	0	2.62	2.67	2.67	2.52	5.27
REF. NO.	IC6006											
MODE	1	2	3	4	5	6	7	8				
STOP	0	7.63	7.60	0	0.78	0	14.2	15.4				
REC	4.09	3.44	3.42	0	0.78	0.10	13.1	14.3				
PLAY	4.09	3.44	3.42	0	0.78	0.10	13.1	14.3				
F.F	9.08	8.49	8.20	0	0.78	0.15	13.6	14.8				
REW	9.43	8.85	8.63	0	0.78	0.21	13.3	14.5				

SERVO & SYSTEM CONTROL BOARD (VEP02143A)


E
D
C
B
A
1
2
3
4
5
6
7
8
PICTURE
TRACKING FIX
IC6001 MN1405VAJ
IC6002 HD7416P MF3216R
IC6003 M53216PN (HD7416P)
IC6004 AN6912 (μPC339C)
IC6005 μPD6049 U8C
IC6006 μPC358
IC2001 μPC1504C
IC2002 AN667
IC2003 μPC1503
TRUCKING SHIFTER
PG SHIFT
BUFF OSC
CYL F.R.
REC SHIFTER
V-LOCK
CAP F.R.
TP6001
TP6002
GND
RY1 VSY2026

NOTE UNLESS OTHERWISE SPECIFIED ALL DI

TROL ICs VOLTAGE CHART

IC6001

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
.09	0.09	0.30	0.20	0.10	0.15	0.05	0.15	5.03	4.87	0.51	0.25	0.03	0.24	0.24	0.24	0.25	0.22
.09	0.09	0.30	5.18	0.10	0.15	5.12	5.09	5.03	4.87	0.51	0.43	0.16	0.03	0.24	0.24	0.25	0.43
.09	0.09	0.30	5.18	0.10	0.15	0.05	0.15	0.13	4.87	0.51	—	0.15	0.03	0.24	0.24	0.25	0.43
.09	0.09	0.30	0.20	0.10	0.15	0.05	0.15	5.03	4.35	1.01	—	0.39	0.64	0.65	0.65	0.08	1.22
.09	0.09	0.30	0.20	0.10	0.15	1.05	0.15	5.03	4.35	1.01	—	0.39	0.64	0.65	0.65	0.08	1.22

IC6001

23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
.13	0.13	0.13	0	5.22	5.26	0.04	2.65	0.08	0.16	0.16	0.16	0.22	0.16	0.18	4.91	5.26	2.63
.13	4.30	0.13	0	5.22	5.26	0.04	2.65	0.08	0.16	0.16	0.16	4.72	5.20	0.18	4.91	5.26	2.63
.13	4.27	0.13	0	5.22	5.26	0.04	2.65	0.08	0.16	0.16	0.16	4.72	0.16	0.18	4.91	5.26	2.63
.13	4.31	0.13	0	5.22	5.26	0.04	2.65	0.08	0.16	5.16	0.16	0.21	0.16	0.18	4.91	5.26	2.63
.13	0.13	4.32	0	5.22	5.26	0.04	2.65	0.08	5.15	0.17	0.16	0.21	0.16	0.18	4.91	5.26	2.63

IC6002

3	4	5	6	7	8	9	10	11	12	13	14						
.51	0.05	4.63	0.07	0	8.65	0.51	7.37	0.18	9.27	0.15	5.27						
.51	0.05	4.63	0.07	0	8.65	0.51	3.02	0.18	0.13	5.07	5.27						
.51	0.05	4.63	0.07	0	8.65	0.51	3.02	0.18	9.27	0.15	5.27						
.01	0.05	3.65	0.07	0	7.70	1.00	7.45	0.18	9.27	0.15	5.27						
.01	0.05	3.65	0.07	0	7.70	1.00	7.45	0.18	9.27	0.15	5.27						

IC6003

3	4	5	6	7	8	9	10	11	12	13	14						
.16	7.96	0.16	7.96	0	9.27	0.16	9.25	0.22	0.05	5.02	5.26						
.16	1.46	0	1.45	0	0.16	5.20	0.14	4.72	0.05	5.02	5.26						
.16	7.96	0.16	7.96	0	9.27	0.16	0.13	4.71	5.25	0.13	5.26						
.17	0.13	0.16	1.21	0	9.27	0.16	9.25	0.21	0.06	5.03	5.26						
.16	1.15	5.15	0.12	0	9.27	0.16	9.25	0.21	0.06	5.03	5.26						

IC6004

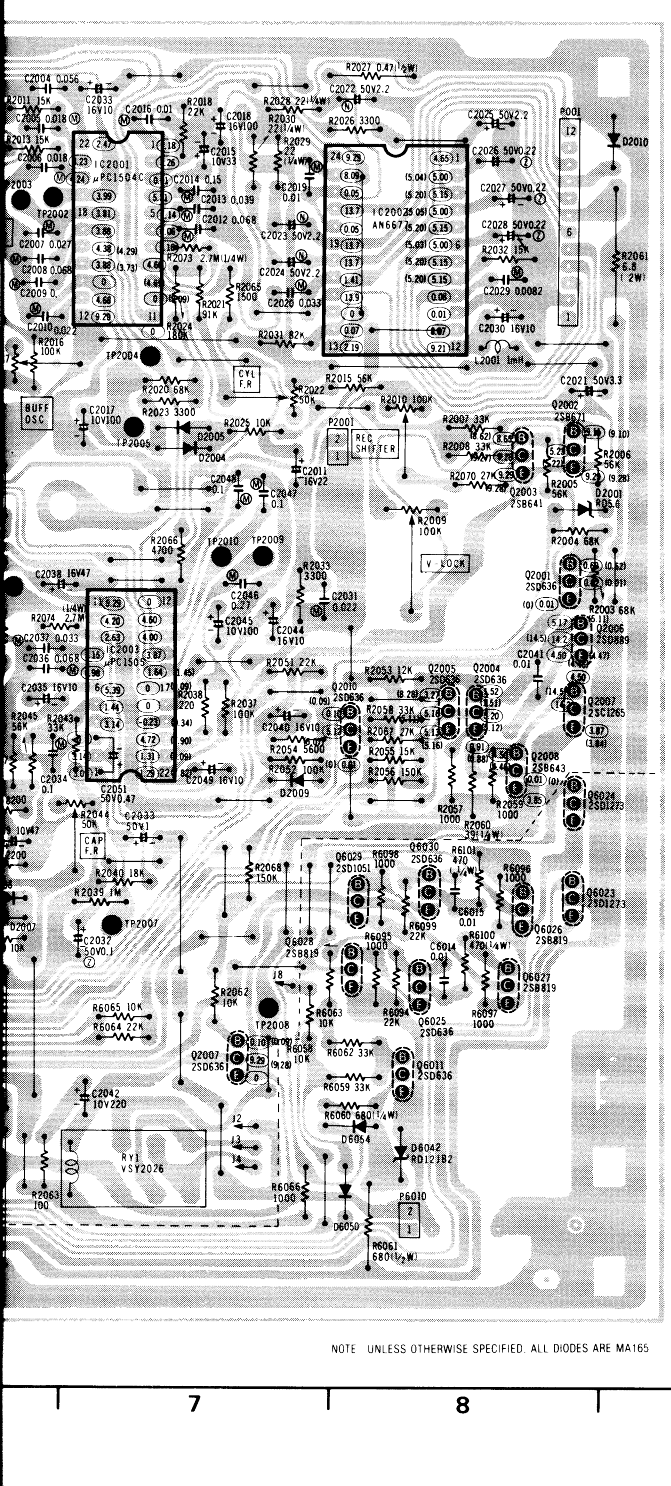
3	4	5	6	7	8	9	10	11	12	13	14						
.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0	0	0						
.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0	0	0						
.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0	0	0						
.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0	0	0						
.27	0.40	0	2.54	0.07	3.13	2.97	3.14	2.97	0	0	0						

IC6005

3	4	5	6	7	8	9	10	11	12	13	14						
.19	0	0.09	5.26	0	2.62	2.67	2.67	2.52	5.27	0	5.26						
.19	0	0.09	5.26	0	2.62	2.67	2.67	2.52	5.27	0	5.26						
.19	0	0.09	5.26	0	2.62	2.67	2.67	2.52	5.27	0	5.26						
.14	0	0.23	5.26	0	2.62	2.67	2.67	2.52	5.27	0	5.26						
.14	0	0.23	5.26	0	2.62	2.67	2.67	2.52	5.27	0	5.26						

IC6006

3	4	5	6	7	8												
.60	0	0.78	0	14.2	15.4												
.42	0	0.78	0.10	13.1	14.3												
.42	0	0.78	0.10	13.1	14.3												
.20	0	0.78	0.15	13.6	14.8												
.63	0	0.78	0.21	13.3	14.5												



IC2002 AN6677
IC2001 μPC1504C
IC2003 μPC1505C
TP2001
TP2002
TP2003
TP2004
TP2005
TP2007
TP2008
TP2009
TP2010
BUFF OSC
CYL F.R.
REC SHIFTER
V LOCK
CAP F.R.
P001
P2001
P6010
7
8
9

P6001

1	SUPPLY PHOTO
2	GND

P6011

1	REMOCON J1
2	REMOCON J2
3	REMOCON J3

P001

1	OSC
2	GND
3	P-COM
4	P_1
5	P_2
6	P_3
7	M-COM
8	MAIN1
9	MAIN2
10	MAIN3
11	
12	PG

P2001

1	GND
2	CTL HEAD

BJ1003

1	CAP +18V
2	MOTOR +15V
3	POWER ON-OFF
4	POWER OFF Ⓛ
5	MOTOR GND
6	GND
7	REG +9V
8	REG +5V

BJ6001

1	DEW SENSOR
2	GND
3	TAKE UP PHOTO
4	GND
5	CAP FG
6	GND
7	CAP MOTOR ⊕
8	CAP MOTOR ⊖
9	LOADING MOTOR ⊕
10	LOADING MOTOR ⊖

BJ6006

1	REW Ⓛ
2	FF Ⓛ
3	PLAY Ⓛ
4	DEW
5	KEY Ⅰ
6	KEY Ⅱ
7	KEY Ⅲ
8	REC

BJ6007

1	+9V
2	+5V
3	GND
4	TIMER ON
5	TIMER SET
6	PAUSE Ⓛ
7	REC REQUEST
8	POWER OFF Ⓛ

BP6002

1	SENSOR LED GND
2	SENSOR LED ⊕
3	+9V
4	REV SENSOR
5	REC TAB SW
6	REC TAB SW
7	CASSETTE DOWN
8	CASSETTF DOWN

BP6003

1	PLAY Ⓟ
2	REV Ⓟ
3	PAUSE Ⓟ
4	FF/REW Ⓟ
5	STOP Ⓟ
6	EJECT Ⓟ

BP6006

1	+9V
2	GND
3	REEL SENSOR
4	REEL MOTOR ⊖
5	REEL MOTOR ⊕

JPA

5	Vss
4	REF 50Hz
3	HEAD SW
2	SEARCH Ⓛ
1	GND

JPB

5	EXCEPT REC 9V
4	DELAYED REC 9V
3	REC 9V
2	AUDIO MUTE
1	EE/VV

JPC

4	PAUSE REMOCON
3	PICTURE ⊕
2	CENTOR
1	PICTURE ⊖

NOTE UNLESS OTHERWISE SPECIFIED. ALL DIODES ARE MA165

SYSTEM CONTROL TRANSISTORs VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.21	0.26	9.29	0.06	9.27	9.29	9.28	8.57	0	0.08	0.70	9.29	9.29	8.57	9.29	0	9.28
REC	0	0.02	0.60	9.29	9.27	8.60	9.29	0.07	9.27	0	9.27	0.37	9.28	9.18	8.50	9.18	9.09	8.40
PLAY	0	0.02	0.60	9.29	9.28	8.61	9.29	9.28	8.56	0	0.08	0.70	9.28	9.28	8.57	9.28	0	9.27
F.F	0	0.23	0.26	9.29	0.09	9.27	9.29	9.28	8.56	0	0.08	0.70	9.28	9.28	8.57	9.28	0	9.27
REW	0	0.23	0.26	9.29	0.09	9.27	9.29	9.28	8.56	0	0.08	0.70	9.28	9.28	8.57	9.28	0	9.27

REF. NO.	Q6007			Q6008			Q6009			Q6010			Q6011			Q6012		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	9.29	0.40	9.27	0.47	15.3	—	9.30	—	9.19	5.27	0.28	5.17	0	0.13	0.69	0	5.22	0
REC	9.18	9.17	8.45	0.47	14.4	—	9.28	—	9.17	5.27	0.28	5.17	0	0.13	0.69	0	5.22	0
PLAY	9.28	0.40	9.27	0.47	14.3	—	9.30	—	9.18	5.27	—	5.16	0	0.12	0.69	0	5.22	0
F.F	9.28	0.40	9.27	1.37	14.7	1.72	9.30	1.73	9.12	5.27	0.86	5.10	0	12.0	0.35	0	5.22	0
REW	9.28	0.40	9.27	1.37	14.7	1.72	9.30	1.72	9.12	5.27	0.86	5.10	0	12.0	0.35	0	5.22	0

REF. NO.	Q6013			Q6014			Q6015			Q6016			Q6017			Q6018		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	2.23	−0.39	0	2.67	−0.58	0	7.35	0.05	7.64	—	7.63	7.62	0.64	7.63	0	—	0
REC	0	2.23	−0.39	0	2.67	−0.58	0	4.39	0.05	3.44	3.37	2.70	3.43	0.14	3.43	0.09	3.37	0.09
PLAY	0	2.23	−0.39	0	2.67	−0.58	0	4.39	0.05	3.44	3.37	2.70	3.44	0.15	3.44	0.09	3.37	0.09
F.F	0	2.23	−0.39	0	2.67	−0.58	0	7.43	0.05	8.30	8.20	7.52	8.30	0.17	8.32	0.13	8.26	0.13
REW	0	2.23	−0.39	0	2.67	−0.58	0	7.43	0.05	8.30	0.22	8.30	8.30	8.24	7.55	0.13	0.16	0.89

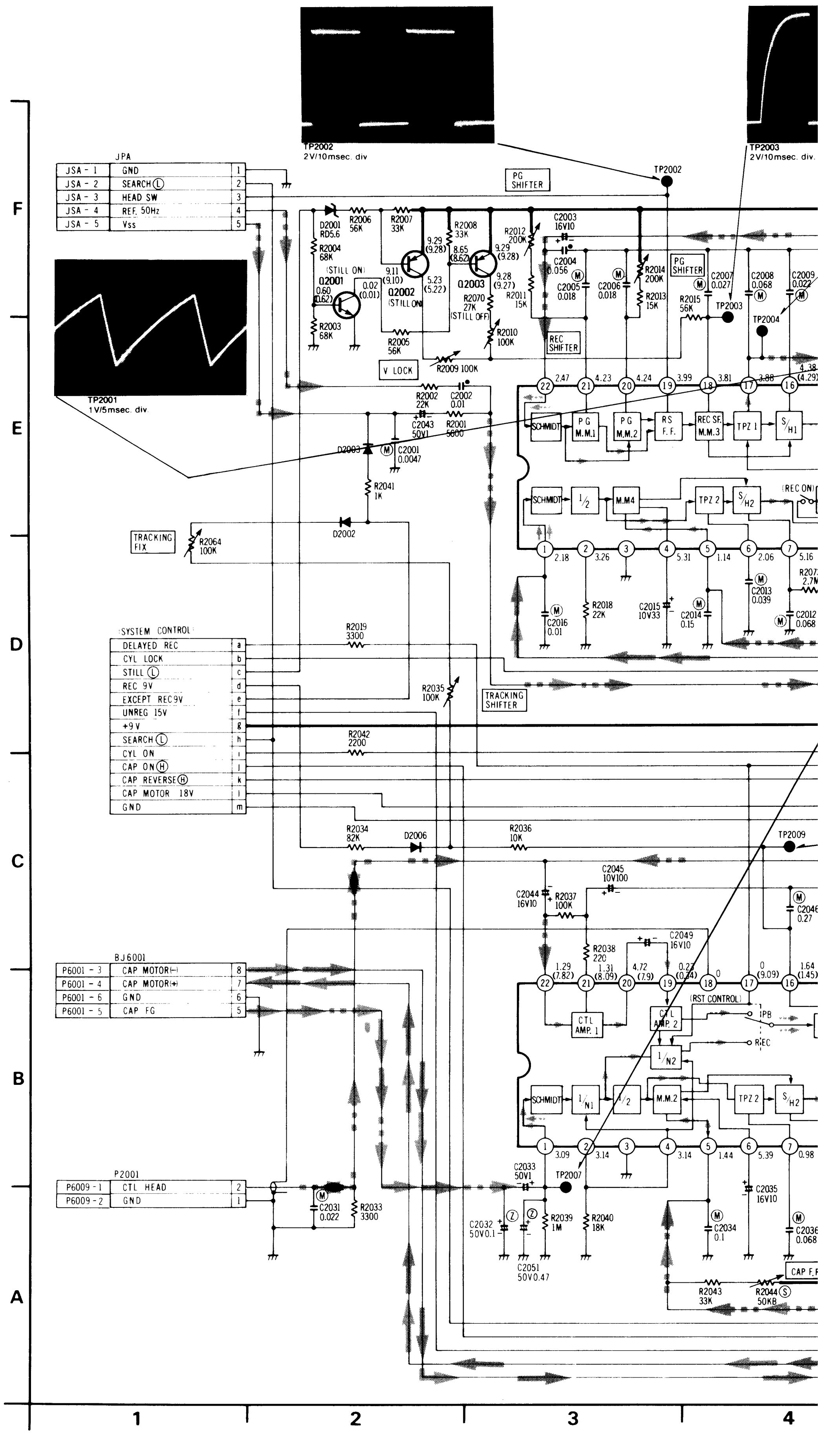
REF. NO.	Q6019			Q6020			Q6021			Q6022			Q6023			Q6024		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.71	0	0	7.63	0.09	0	7.63	0.09	7.63	7.61	7.43	7.64	15.6	0	9.06	15.6	9.30
REC	0.09	0.14	0.82	0.09	3.44	0.11	0.11	0.86	1.49	3.50	3.42	3.41	3.51	14.3	4.08	9.08	14.3	9.28
PLAY	0.09	0.14	0.82	0.09	3.44	0.12	0.82	0.86	1.49	3.50	3.43	3.42	3.52	14.3	4.07	9.11	14.3	9.30
F.F	0.13	0.17	0.89	0.12	8.37	0.12	0.89	0.98	1.59	8.38	8.39	7.83	8.58	14.7	9.23	11.1	14.7	11.4
REW	0.13	8.28	0.12	0.89	0.99	1.59	0.12	8.38	0.13	8.40	8.40	7.82	8.55	14.7	9.23	11.1	14.7	11.4

REF. NO.	Q6025			Q6026			Q6027			Q6028			Q6029			Q6030		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	9.06	0.09	9.06	—	9.06	9.06	—	9.06	0	—	0	0	—	0	0	9.06	0.09
REC	0	9.09	0.08	9.09	0.04	9.08	9.09	—	9.08	0	0.04	0	0	—	0	0	9.09	0.08
PLAY	0	9.11	0.09	9.11	0.05	9.11	9.11	—	9.11	0	0.10	0	0	—	0	0	9.11	0.09
F.F	0	11.1	0.09	11.1	0.11	11.1	11.1	—	11.1	0	0.05	0	0	—	0	0	11.2	0.09
REW	0	11.2	0.09	11.2	0.11	11.2	11.2	—	11.2	0	0.05	0	0	—	0	0	11.2	0.09

REF. NO.	Q6031																	
MODE	E	C	B															
STOP	0.04	0.09	0.04															
REC	0.03	0.08	0.03															
PLAY	0.04	0.09	0.04															
F.F	0.04	0.09	0.04															
REW	0.04	0.09	0.04															

THE MEASUREMENT MODE OF THE D.C. VOLTAGE ON THESE CHARTS ARE IN PAL COLOUR MODE.

SERVO SCHEMATIC DIAGRAM



TP2002 2V/10msec. div
TP2003 2V/10msec. div
TP2001 1V/5msec. div
JPA
JSA-1 GND
JSA-2 SEARCH Ⓛ
JSA-3 HEAD SW
JSA-4 REF. 50Hz
JSA-5 Vss
PG SHIFTER
REC SHIFTER
V LOCK
TRACKING FIX
TRACKING SHIFTER
SYSTEM CONTROL
DELAYED REC
CYL LOCK
STILL Ⓛ
REC 9V
EXCEPT REC9V
UNREG 15V
+9V
SEARCH Ⓛ
CYL ON
CAP ON Ⓗ
CAP REVERSE Ⓗ
CAP MOTOR 18V
GND
BJ6001
P6001-3 CAP MOTOR(−)
P6001-4 CAP MOTOR(+)
P6001-6 GND
P6001-5 CAP FG
P2001
P6009-1 CTL HEAD
P6009-2 GND
Q2001 (STILL ON)
Q2002 (STILL ON)
Q2003 (STILL OFF)
SCHMIDT
P.G M.M.1
P.G M.M.2
RS F.F.
REC SF. M.M.3
TPZ 1
M.M4
TPZ 2
CTL AMP. 1
CTL AMP. 2
M.M.2
(RST CONTROL)
A
B
C
D
E
F
1
2
3
4

CHART

	Q6005			Q6006		
B	E	C	B	E	C	B
70	9.29	9.29	8.57	9.29	0	9.28
37	9.28	9.18	8.50	9.18	9.09	8.40
70	9.28	9.28	8.57	9.28	0	9.27
70	9.28	9.28	8.57	9.28	0	9.27
70	9.28	9.28	8.57	9.28	0	9.27
	Q6011			Q6012		
B	E	C	B	E	C	B
17	0	0.13	0.69	0	5.22	0
17	0	0.13	0.69	0	5.22	0
16	0	0.12	0.69	0	5.22	0
10	0	12.0	0.35	0	5.22	0
10	0	12.0	0.35	0	5.22	0
	Q6017			Q6018		
B	E	C	B	E	C	B
63	7.62	0.64	7.63	0	—	0
70	3.43	0.14	3.43	0.09	3.37	0.09
70	3.44	0.15	3.44	0.09	3.37	0.09
52	8.30	0.17	8.32	0.13	8.26	0.13
30	8.30	8.24	7.55	0.13	0.16	0.89
	Q6023			Q6024		
B	E	C	B	E	C	B
43	7.64	15.6	0	9.06	15.6	9.30
41	3.51	14.3	4.08	9.08	14.3	9.28
42	3.52	14.3	4.07	9.11	14.3	9.30
33	8.58	14.7	9.23	11.1	14.7	11.4
32	8.55	14.7	9.23	11.1	14.7	11.4
	Q6029			Q6030		
B	E	C	B	E	C	B
	0	—	0	0	9.06	0.09
	0	—	0	0	9.09	0.08
	0	—	0	0	9.11	0.09
	0	—	0	0	11.2	0.09
	0	—	0	0	11.2	0.09

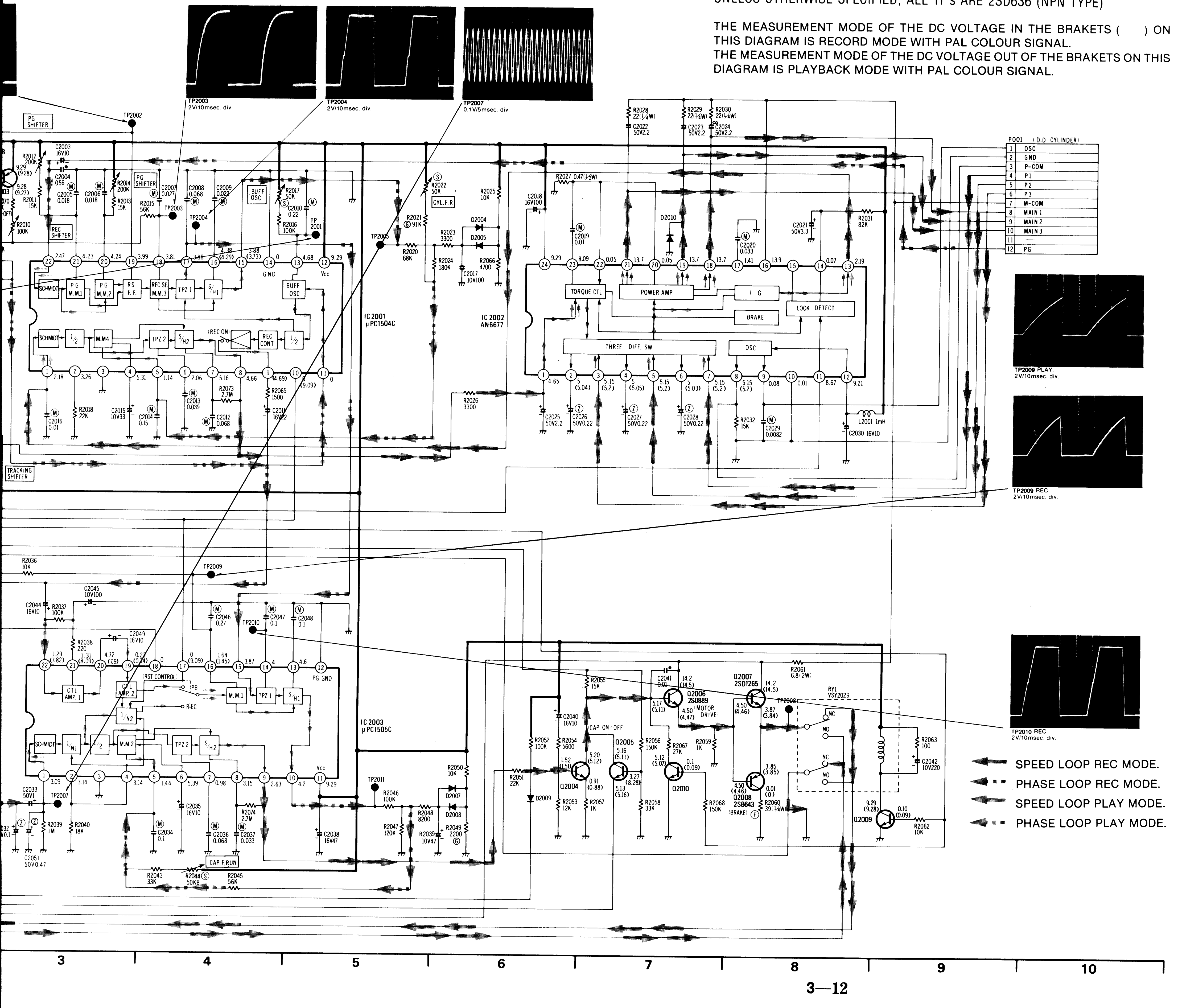
UR MODE.

Servo	
Q2001	F-2
Q2002	F-2
Q2003	F-3
Q2004	B-7
Q2005	B-7
Q2006	B-7
Q2008	B-8
Q2009	A-9
Q2010	B-7
IC2001	E-4
IC2002	E-7
IC2003	B-4

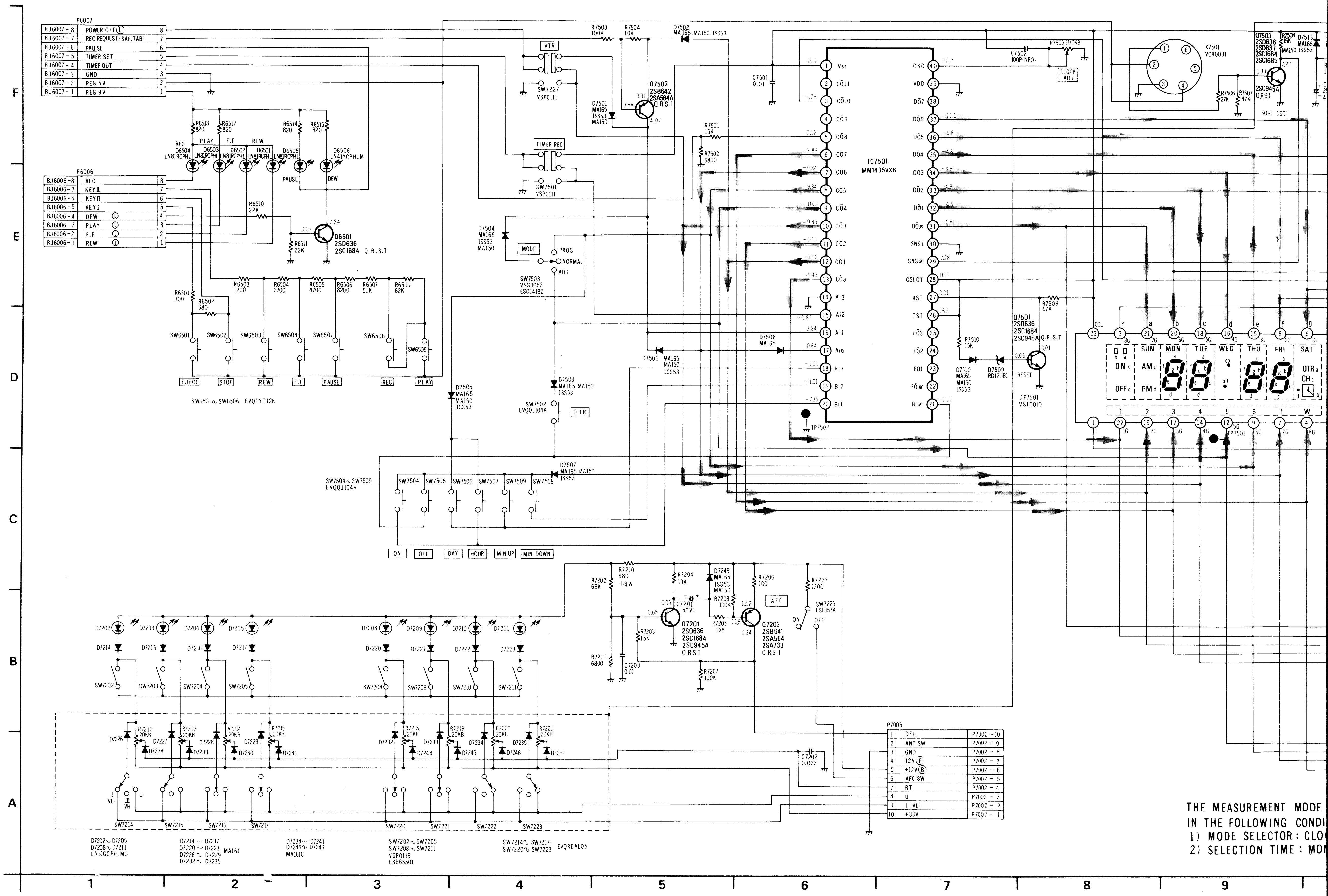
GRAM

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636 (NPN TYPE)

THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRAKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRAKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.


TP2003 2V/10msec. div.
TP2004 2V/10msec. div.
TP2007 0.1V/5msec. div.
TP2009 PLAY 2V/10msec. div.
TP2009 REC. 2V/10msec. div.
TP2010 REC. 2V/10msec. div.
PG SHIFTER
REC SHIFTER
TRACKING SHIFTER
CYL.F.R
CAP F.RUN
IC2001 μPC1504C
IC2002 AN6677
IC2003 μPC1505C
SCHMIDT
P G M.M.1
P G M.M.2
RS F.F.
REC SF M.M.3
TPZ 1
TPZ 2
M.M4
REC ON
REC CONT
BUFF OSC
GND
Vcc
TORQUE CTL
POWER AMP
F G
BRAKE
LOCK DETECT
THREE DIFF. SW
OSC
CTL AMP. 1
CTL AMP 2
RST CONTROL
PB
REC
PG.GND
CAP ON · OFF
MOTOR DRIVE
Q2004
Q2005
Q2006 2SD889
Q2007 2SD1265
Q2008 2SB643 (BRAKE)
Q2009
Q2010
RY1 VSY2029
NC
NO
L2001 1mH
P001 (D.D CYLINDER)
1 OSC
2 GND
3 P-COM
4 P1
5 P2
6 P3
7 M-COM
8 MAIN 1
9 MAIN 2
10 MAIN 3
11 —
12 PG
SPEED LOOP REC MODE.
PHASE LOOP REC MODE.
SPEED LOOP PLAY MODE.
PHASE LOOP PLAY MODE.
3
4
5
6
7
8
9
10

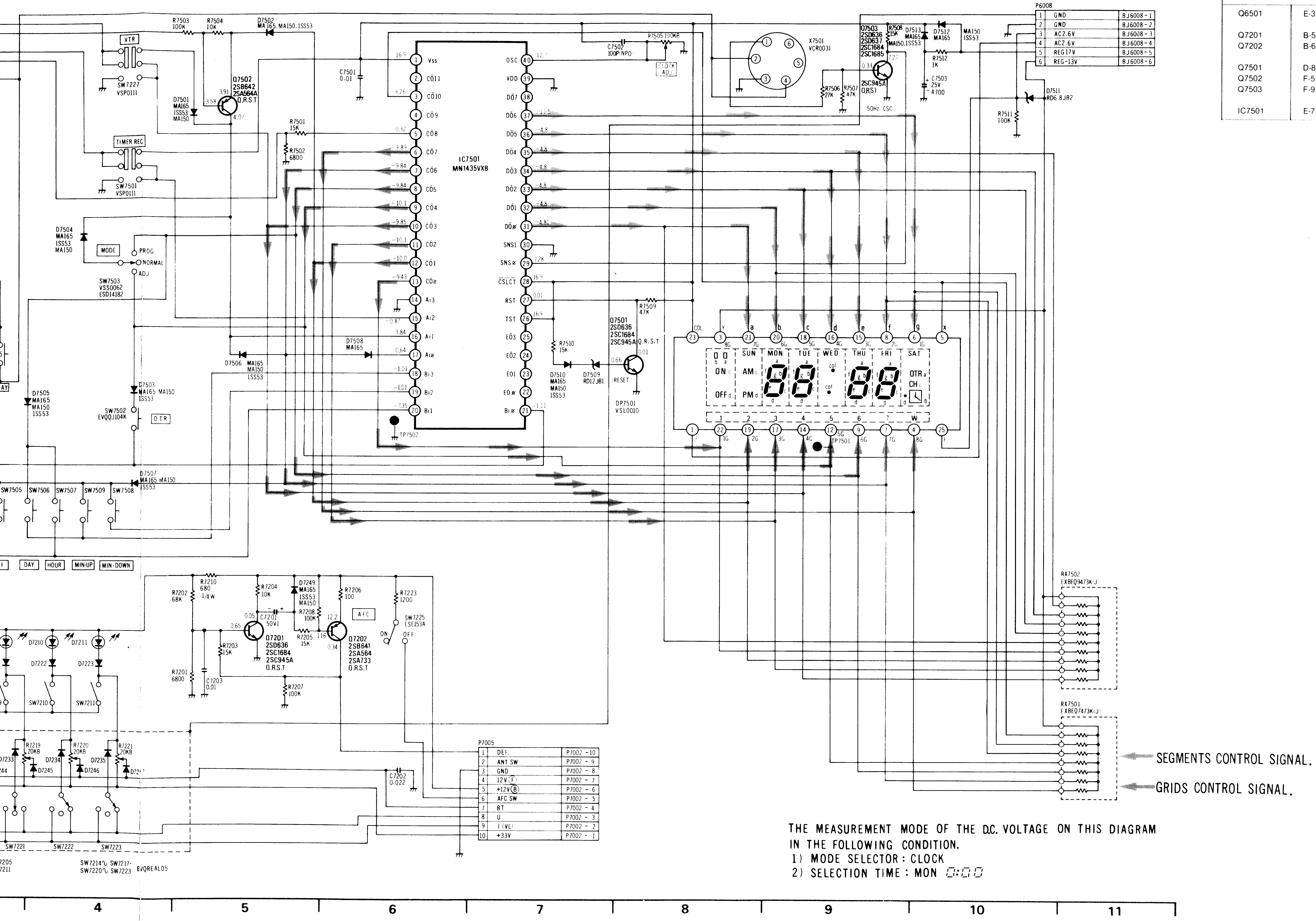
FRONT BOARD SCHEMATIC DIAGRAM (*NV-333E, EG*)


P6007
BJ6007-8 POWER OFF Ⓛ
BJ6007-7 REC REQUEST (SAF. TAB)
BJ6007-6 PAUSE
BJ6007-5 TIMER SET
BJ6007-4 TIMER OUT
BJ6007-3 GND
BJ6007-2 REG 5V
BJ6007-1 REG 9V
P6006
BJ6006-8 REC
BJ6006-7 KEY III
BJ6006-6 KEY II
BJ6006-5 KEY I
BJ6006-4 DEW Ⓛ
BJ6006-3 PLAY Ⓛ
BJ6006-2 F.F Ⓛ
BJ6006-1 REW Ⓛ
R6513 820
R6512 820
R6514 820
R6515 820
REC D6504 LN81RCPHL
PLAY D6503 LN81RCPHL
F.F D6502 LN81RCPHL
REW D6501 LN81RCPHL
D6505 LN81RCPHL
PAUSE
D6506 LN41YCPHLM
DEW
R6510 22K
Q6501 2SD636 2SC1684 Q.R.S.T
R6511 22K
R6501 300
R6502 680
R6503 1200
R6504 2700
R6505 4700
R6506 8200
R6507 51K
R6509 62K
SW6501 SW6502 SW6503 SW6504 SW6507 SW6506 SW6505
EJECT STOP REW F.F PAUSE REC PLAY
SW6501～SW6506 EVQPYT12K
VTR
SW7227 VSP0111
TIMER REC
SW7501 VSP0111
R7503 100K
R7504 10K
D7502 MA165 MA150 1SS53
D7501 MA165 1SS53 MA150
Q7502 2SB642 2SA564A Q.R.S.T
R7501 15K
R7502 6800
C7501 0.01
D7504 MA165 1SS53 MA150
MODE PROG NORMAL ADJ
SW7503 VSS0062 ESD14182
D7503 MA165 MA150 1SS53
SW7502 EVQQJ104K
OTR
D7505 MA165 MA150 1SS53
D7506 MA165 MA150 1SS53
D7508 MA165
D7507 MA165 MA150 1SS53
SW7504～SW7509 EVQQJ104K
SW7504 SW7505 SW7506 SW7507 SW7509 SW7508
ON OFF DAY HOUR MIN-UP MIN-DOWN
IC7501 MN1435VX8
Vss C011 C010 C09 C08 C07 C06 C05 C04 C03 C02 C01 C00 AI3 AI2 AI1 AI0 BI3 BI2 BI1
OSC VDD D07 D06 D05 D04 D03 D02 D01 D00 SNS1 SNS0 CSLCT RST TST E03 E02 E01 E00 BI0
TP7502
C7502 100P NPO
R7505 100KB
CLOCK ADJ
R7509 47K
R7510 15K
D7509 RD12JB1
Q7501 2SD636 2SC1684 2SC945A Q.R.S.T
RESET
D7510 MA165 MA150 1SS53
DP7501 VSL0010
X7501 VCR0031
Q7503 2SD636 2SD637 2SC1684 2SC1685
R7508 15K
D7513 MA165 MA150 1SS53
R7506 27K
R7507 47K
2SC945A Q.R.S
50Hz OSC
COL Y a b c d e f g
SUN MON TUE WED THU FRI SAT
ON AM PM OFF col OTR CH
1 2 3 4 5 6 7 W
1G 2G 3G 4G 5G 6G 7G 8G
TP7501
R7210 680 1/4W
R7202 68K
R7201 6800
R7203 15K
C7203 0.01
R7204 10K
C7201 50V1
Q7201 2SD636 2SC1684 2SC945A Q.R.S.T
D7249 MA165 1SS53 MA150
R7208 100K
R7205 15K
R7207 100K
R7206 100
Q7202 2SB641 2SA564 2SA733 Q.R.S.T
AFC
R7223 1200
SW7225 ESE153A
ON OFF
D7202 D7203 D7204 D7205 D7208 D7209 D7210 D7211
D7214 D7215 D7216 D7217 D7220 D7221 D7222 D7223
SW7202 SW7203 SW7204 SW7205 SW7208 SW7209 SW7210 SW7211
R7212 20KB R7213 20KB R7214 20KB R7215 20KB R7218 20KB R7219 20KB R7220 20KB R7221 20KB
D7226 D7227 D7228 D7229 D7232 D7233 D7234 D7235
D7238 D7239 D7240 D7241 D7244 D7245 D7246 D7247
I VL III VH U
SW7214 SW7215 SW7216 SW7217 SW7220 SW7221 SW7222 SW7223
C7202 0.022
P7005
1 DEF. P7002-10
2 ANT SW P7002-9
3 GND P7002-8
4 12V Ⓕ P7002-7
5 +12V Ⓑ P7002-6
6 AFC SW P7002-5
7 BT P7002-4
8 U P7002-3
9 I (VL) P7002-2
10 +33V P7002-1
D7202～D7205 D7208～D7211 LN31GCPHLMU
D7214～D7217 D7220～D7223 D7226～D7229 D7232～D7235 MA161
D7238～D7241 D7244～D7247 MA161C
SW7202～SW7205 SW7208～SW7211 VSP0119 ESB65501
SW7214～SW7217 SW7220～SW7223 EVQREAL05
F E D C B A
1 2 3 4 5 6 7 8 9

THE MEASUREMENT MODE
IN THE FOLLOWING CONDI
1) MODE SELECTOR: CLO
2) SELECTION TIME: MO

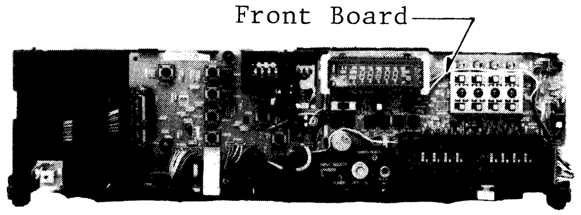
RAM (*NV-333E, EG*)

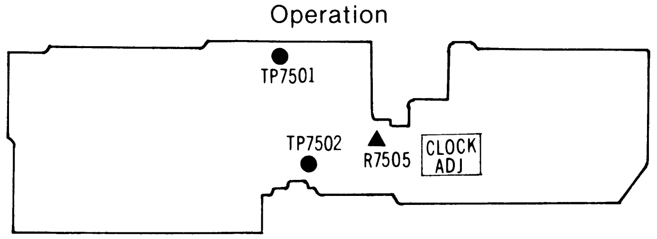
Front Board	
Q6501	E-3
Q7201	B-5
Q7202	B-6
Q7501	D-8
Q7502	F-5
Q7503	F-9
IC7501	E-7



IC7501
MN1435VXB
Vss
CO11
CO10
CO9
CO8
CO7
CO6
CO5
CO4
CO3
CO2
CO1
COø
AI3
AI2
AI1
AIø
BI3
BI2
BI1
OSC
VDD
DO7
DO6
DO5
DO4
DO3
DO2
DO1
DOø
SNS1
SNSø
CSLCT
RST
TST
EO3
EO2
EO1
EOø
BIø
TP7502
TP7501
VTR
SW7227
VSP0111
TIMER REC
SW7501
VSP0111
MODE
PROG
NORMAL
ADJ
SW7503
VSS0062
ESD14182
D7504
MA165
1SS53
MA150
R7503
100K
R7504
10K
D7502
MA165, MA150, 1SS53
Q7502
2SB642
2SA564A
Q.R.S.T
D7501
MA165
1SS53
MA150
R7501
15K
R7502
6800
C7501
0.01
C7502
100P(NPO)
R7505 100KB
CLOCK ADJ
X7501
VCR0031
Q7503
2SD636
2SD637
2SC1684
2SC1685
2SC945A
Q.R.S.T
R7506
27K
R7507
47K
R7508
15K
D7513
MA165
MA150, 1SS53
D7512
MA165
MA150
1SS53
R7512
1K
C7503
25V
4700
50Hz OSC
P6008
GND
GND
AC2.6V
AC2.6V
REG 17V
REG -13V
BJ6008-1
BJ6008-2
BJ6008-3
BJ6008-4
BJ6008-5
BJ6008-6
D7511
RD6.8JB2
R7511
100K
Q7501
2SD636
2SC1684
2SC945A
Q.R.S.T
R7509
47K
R7510
15K
D7510
MA165
MA150
1SS53
D7509
RD12JB1
RESET
DP7501
VSL0010
D7508
MA165
D7506
MA165
MA150
1SS53
D7503
MA165, MA150
1SS53
SW7502
EVQQJ104K
OTR
D7505
MA165
MA150
1SS53
D7507
MA165, MA150
1SS53
SW7505
SW7506
SW7507
SW7509
SW7508
DAY
HOUR
MIN-UP
MIN-DOWN
SUN
MON
TUE
WED
THU
FRI
SAT
ON
OFF
AM
PM
OTR
CH
COL
R7202
68K
R7210
680
1/4W
R7204
10K
D7249
MA165
1SS53
MA150
R7206
100
R7223
1200
C7201
50V1
R7208
100K
Q7201
2SD636
2SC1684
2SC945A
Q.R.S.T
R7205
15K
Q7202
2SB641
2SA564
2SA733
Q.R.S.T
AFC
SW7225
ESE153A
ON
OFF
R7203
15K
R7201
6800
C7203
0.01
R7207
100K
D7210
D7211
D7222
D7223
SW7210
SW7211
R7219
20KB
R7220
20KB
R7221
20KB
D7233
D7234
D7235
D7245
D7246
SW7221
SW7222
SW7223
SW7214～SW7217·
SW7220～SW7223 EVQREAL05
C7202
0.022
P7005
DEF.
ANT SW
GND
12V(F)
+12V(B)
AFC SW
BT
U
I (VL)
+33V
P7002-10
P7002-9
P7002-8
P7002-7
P7002-6
P7002-5
P7002-4
P7002-3
P7002-2
P7002-1
RX7502
EXBEQ9473K(J)
RX7501
EXBEQ7473K(J)
SEGMENTS CONTROL SIGNAL.
GRIDS CONTROL SIGNAL.
4
5
6
7
8
9
10
11

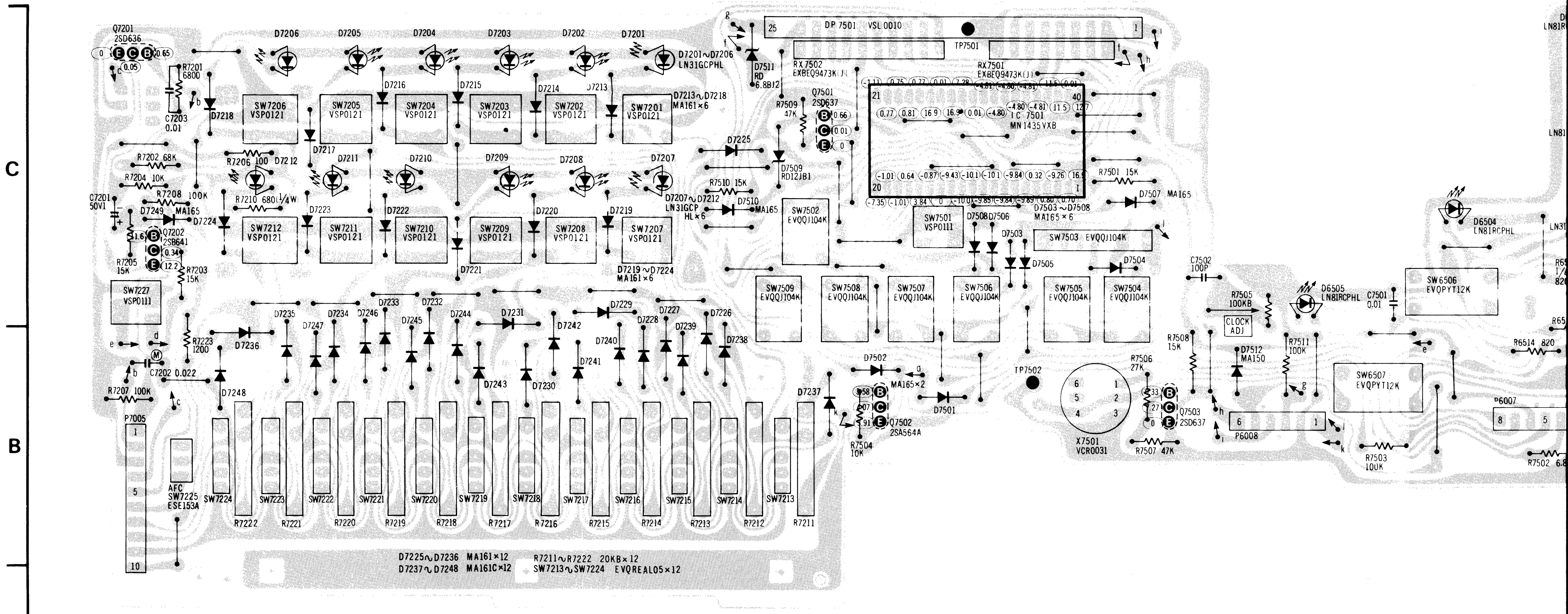
THE MEASUREMENT MODE OF THE D.C. VOLTAGE ON THIS DIAGRAM
IN THE FOLLOWING CONDITION.
1) MODE SELECTOR : CLOCK
2) SELECTION TIME : MON 0:00


Front Board


Operation
TP7501
TP7502
R7505
CLOCK ADJ

Front Board C.B.A	
Q6501	B-8
Q7201	C-1
Q7202	C-1
Q7501	C-4
Q7502	B-4
Q7503	B-5
IC7501	C-4

FRONT BOARD (*NV-333EO*/VEP07124C)


C
B
A
Q7201 2SD636
R7201 6800
C7203 0.01
R7202 68K
R7204 10K
R7208 100K
C7201 50V1
D7249 MA165
Q7202 2SB641
R7205 15K
R7203 15K
SW7227 VSP0111
R7223 1200
C7202 0.022
R7207 100K
P7005
AFC SW7225 ESE153A
D7201∼D7206 LN31GCPHL
D7213∼D7218 MA161×6
D7207∼D7212 LN31GCP HL×6
D7219∼D7224 MA161×6
SW7201 VSP0121
SW7202 VSP0121
SW7203 VSP0121
SW7204 VSP0121
SW7205 VSP0121
SW7206 VSP0121
SW7207 VSP0121
SW7208 VSP0121
SW7209 VSP0121
SW7210 VSP0121
SW7211 VSP0121
SW7212 VSP0121
R7206 100
R7210 680 1/4W
SW7224
SW7223
SW7222
SW7221
SW7220
SW7219
SW7218
SW7217
SW7216
SW7215
SW7214
SW7213
R7222
R7221
R7220
R7219
R7218
R7217
R7216
R7215
R7214
R7213
R7212
R7211
D7225∼D7236 MA161×12
D7237∼D7248 MA161C×12
R7211∼R7222 20KB×12
SW7213∼SW7224 EVQREAL05×12
DP 7501 VSL 0010
TP7501
RX7502 EXBEQ9473K(J)
RX7501 EXBEQ9473K(J)
D7511 RD 6.8BJ2
R7509 47K
Q7501 2SD637
IC 7501 MN1435VXB
D7509 RD12JB1
R7510 15K
D7510 MA165
SW7502 EVQQJ104K
SW7501 VSP0111
D7503∼D7508 MA165×6
SW7503 EVQQJ104K
R7501 15K
D7507 MA165
SW7509 EVQQJ104K
SW7508 EVQQJ104K
SW7507 EVQQJ104K
SW7506 EVQQJ104K
SW7505 EVQQJ104K
SW7504 EVQQJ104K
D7502 MA165×2
D7501
D7537
Q7502 2SA564A
R7504 10K
TP7502
X7501 VCR0031
R7506 27K
Q7503 2SD637
R7507 47K
C7502 100P
R7505 100KB
CLOCK ADJ
R7508 15K
D7512 MA150
R7511 100K
D6505 LN81RCPHL
C7501 0.01
P6008
R7503 100K
SW6506 EVQPYT12K
SW6507 EVQPYT12K
D6504 LN81RCPHL
R6514 820
P6007
R7502

P7005	
1	DEF
2	ANT SW
3	GND
4	12 V Ⓕ
5	12 V Ⓑ
6	AFC
7	BT
8	U
9	I (VL)
10	+33 V

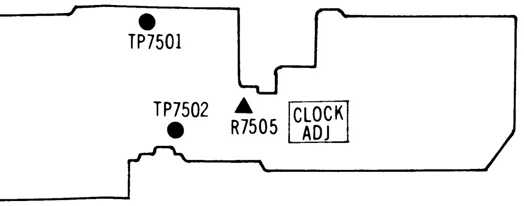
P6008	
1	GND
2	GND
3	AC 2.6 V
4	AC 2.6 V
5	REG 17 V
6	REG −13 V

P6007	
1	REG 9 V
2	REG 5 V
3	GND
4	TIMER OUT
5	TIMER SET
6	PAUSE
7	REC REQUEST
8	POWER OFF Ⓛ

P6006	
1	REW
2	FF
3	PLAY
4	DEW
5	KEY Ⅰ
6	KEY Ⅱ
7	KEY Ⅲ
8	REC

1 2 3 4 5 6

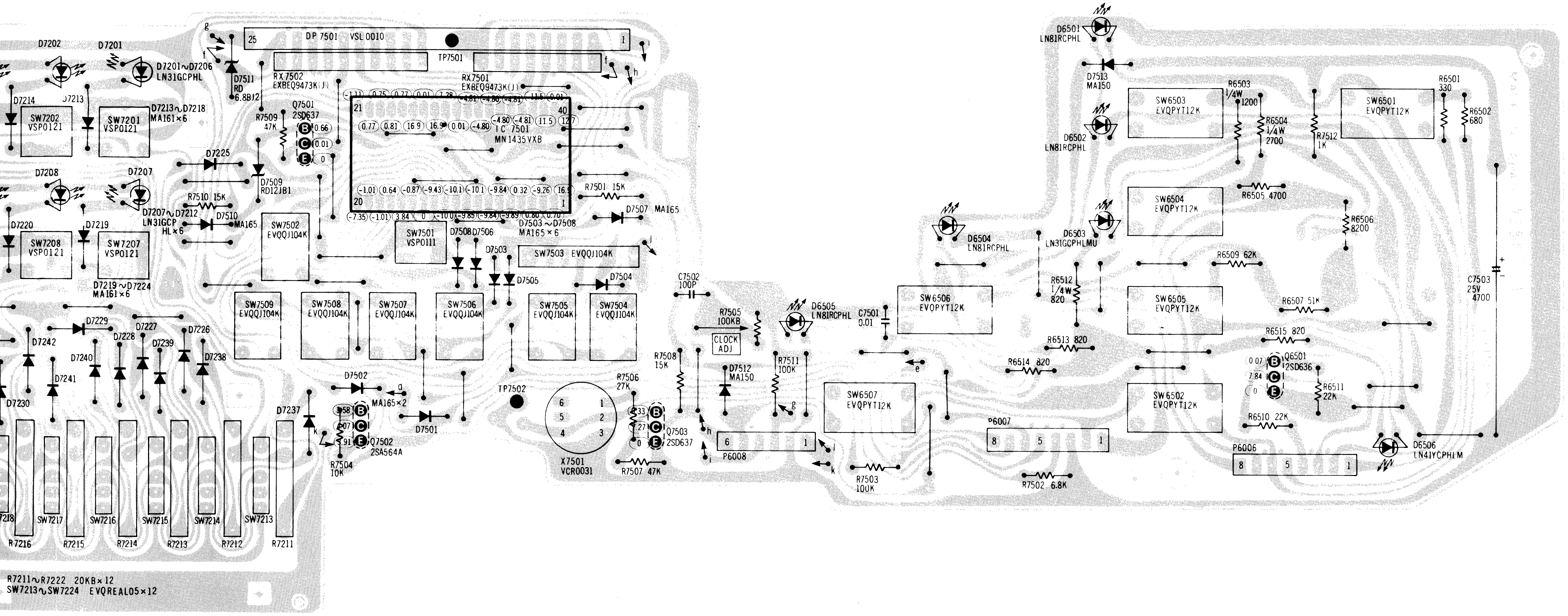
Operation



TP7501
TP7502
R7505
CLOCK ADJ

Front Board C.B.A	
Q6501	B-8
Q7201	C-1
Q7202	C-1
Q7501	C-4
Q7502	B-4
Q7503	B-5
IC7501	C-4

C)



DP 7501 VSL 0010
TP7501
RX7502 EXBEQ9473K(J)
RX7501 EXBEQ9473K(J)
IC 7501 MN1435VXB
Q7501 2SD637
D7202
D7201
D7201∿D7206 LN31GCPHL
D7511 RD 6.8B12
D7214
D7213
D7213∿D7218 MA161×6
SW7202 VSP0121
SW7201 VSP0121
R7509 47K
D7225
D7509 RD12JB1
D7208
D7207
D7207∿D7212 LN31GCP HL×6
R7510 15K
D7510 MA165
D7220
D7219
SW7208 VSP0121
SW7207 VSP0121
D7219∿D7224 MA161×6
SW7502 EVQQJ104K
SW7501 VSP0111
D7508 D7506
D7503∿D7508 MA165×6
D7503
D7505
D7504
SW7503 EVQQJ104K
R7501 15K
D7507 MA165
SW7509 EVQQJ104K
SW7508 EVQQJ104K
SW7507 EVQQJ104K
SW7506 EVQQJ104K
SW7505 EVQQJ104K
SW7504 EVQQJ104K
D7229
D7227
D7226
D7242
D7228
D7239
D7240
D7238
D7241
D7230
D7502
MA165×2
D7237
Q7502 2SA564A
R7504 10K
D7501
TP7502
X7501 VCR0031
R7506 27K
Q7503 2SD637
R7507 47K
R7508 15K
C7502 100P
R7505 100KB
CLOCK ADJ
D7512 MA150
R7511 100K
D6505 LN81RCPHL
C7501 0.01
P6008
SW7217
SW7216
SW7215
SW7214
SW7213
R7216
R7215
R7214
R7213
R7212
R7211
R7211∿R7222 20KB×12
SW7213∿SW7224 EVQREAL05×12
D6501 LN81RCPHL
D7513 MA150
D6502 LN81RCPHL
SW6503 EVQPYT12K
R6503 1/4W 1200
R6504 1/4W 2700
R7512 1K
SW6501 EVQPYT12K
R6501 330
R6502 680
SW6504 EVQPYT12K
R6505 4700
R6506 8200
D6504 LN81RCPHL
D6503 LN31GCPHLMU
R6509 62K
R6512 1/4W 820
SW6506 EVQPYT12K
SW6505 EVQPYT12K
R6507 51K
C7503 25V 4700
R6515 820
R6513 820
R6514 820
Q6501 2SD636
R6511 22K
SW6507 EVQPYT12K
SW6502 EVQPYT12K
R6510 22K
P6007
P6006
D6506 LN41YCPHLM
R7503 100K
R7502 6.8K

P7005

1	DEF
2	ANT SW
3	GND
4	12 V Ⓕ
5	12 V Ⓑ
6	AFC
7	BT
8	U
9	I (VL)
10	+33 V

P6008

1	GND
2	GND
3	AC 2.6 V
4	AC 2.6 V
5	REG 17 V
6	REG −13 V

P6007

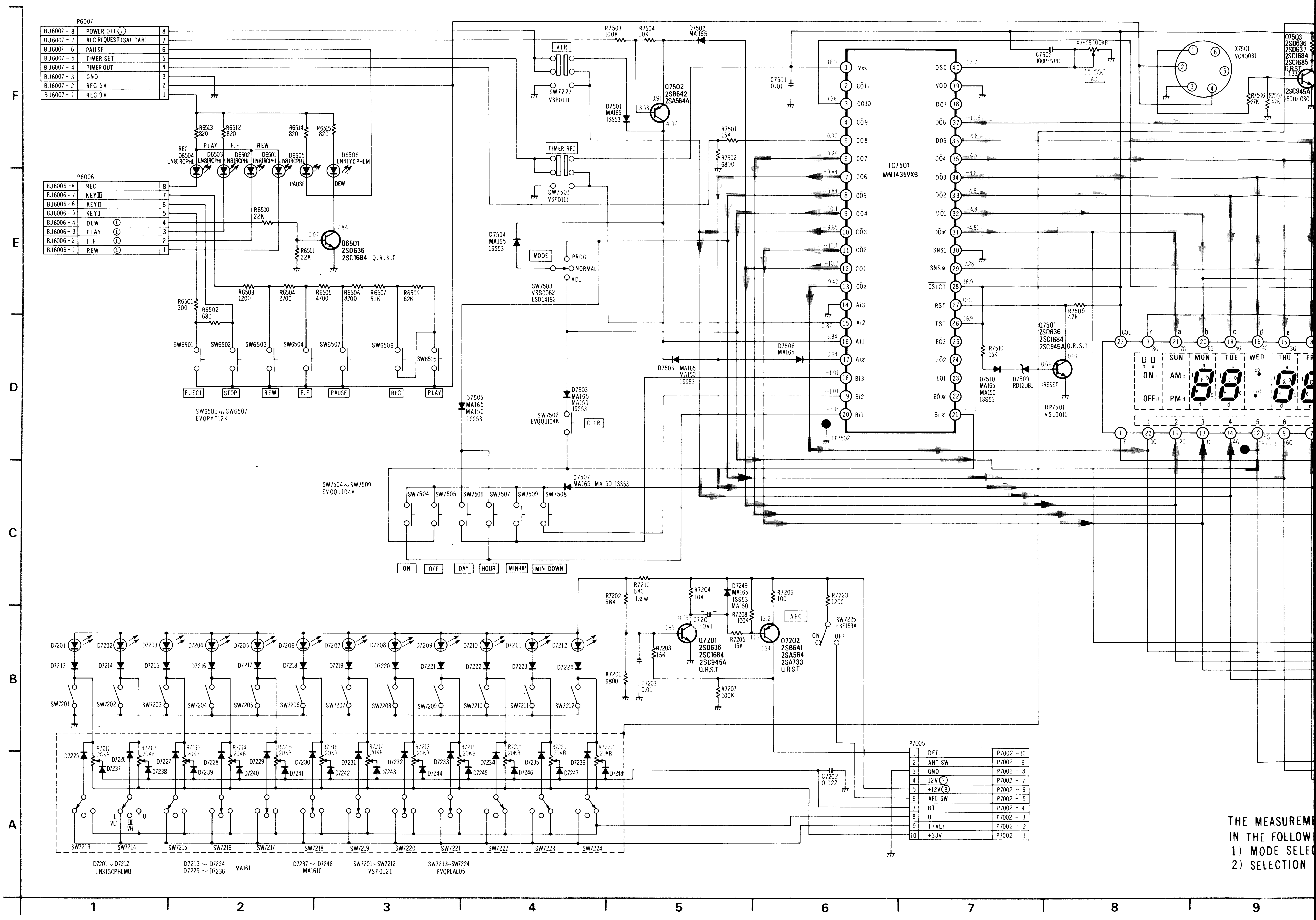
1	REG 9 V
2	REG 5 V
3	GND
4	TIMER OUT
5	TIMER SET
6	PAUSE
7	REC REQUEST
8	POWER OFF Ⓛ

P6006

1	REW
2	FF
3	PLAY
4	DEW
5	KEY Ⅰ
6	KEY Ⅱ
7	KEY Ⅲ
8	REC

3 4 5 6 7 8 9

FRONT BOARD SCHEMATIC DIAGRAM *(NV-333EO)*

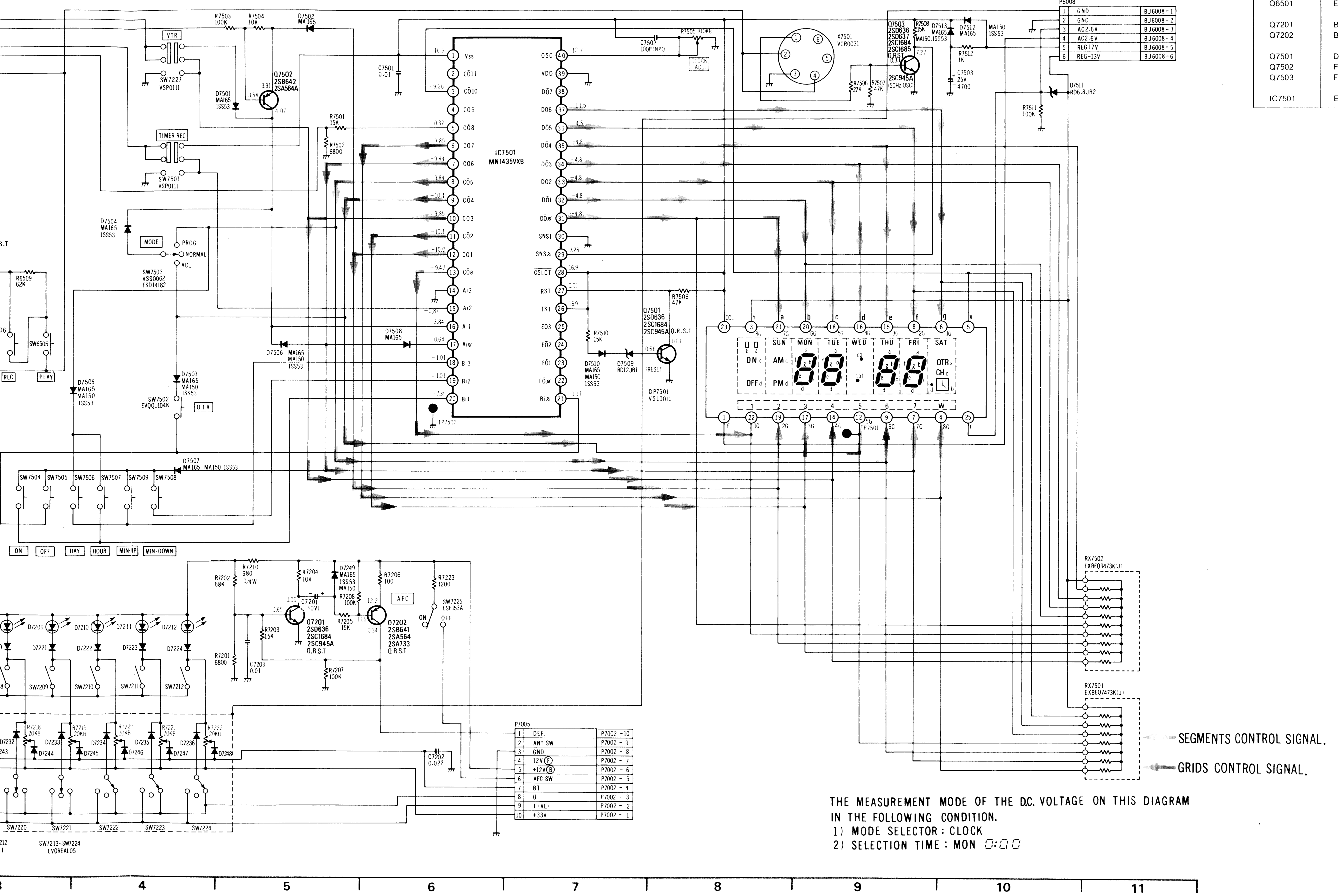


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
P6007
BJ6007-8 POWER OFF Ⓛ 8
BJ6007-7 REC REQUEST(SAF.TAB) 7
BJ6007-6 PAUSE 6
BJ6007-5 TIMER SET 5
BJ6007-4 TIMER OUT 4
BJ6007-3 GND 3
BJ6007-2 REG 5V 2
BJ6007-1 REG 9V 1
P6006
BJ6006-8 REC 8
BJ6006-7 KEY III 7
BJ6006-6 KEY II 6
BJ6006-5 KEY I 5
BJ6006-4 DEW Ⓛ 4
BJ6006-3 PLAY Ⓛ 3
BJ6006-2 F.F Ⓛ 2
BJ6006-1 REW Ⓛ 1
R6513 820
R6512 820
R6514 820
R6515 820
REC D6504 LN81RCPHL
PLAY D6503 LN81RCPHL
F.F D6502 LN81RCPHL
REW D6501 LN81RCPHL
D6505 LN81RCPHL
PAUSE
D6506 LN41YCPHLM
DEW
R6510 22K
Q6501 2SD636 2SC1684 Q.R.S.T
R6511 22K
R6501 300
R6502 680
R6503 1200
R6504 2700
R6505 4700
R6506 8200
R6507 51K
R6509 62K
SW6501
SW6502
SW6503
SW6504
SW6507
SW6506
SW6505
EJECT
STOP
REW
F.F
PAUSE
REC
PLAY
SW6501 ~ SW6507 EVQPYT12K
VTR
SW7227 VSP0111
TIMER REC
SW7501 VSP0111
R7503 100K
R7504 10K
D7502 MA165
D7501 MA165 1SS53
Q7502 2SB642 2SA564A
R7501 15K
R7502 6800
D7504 MA165 1SS53
MODE
PROG
NORMAL
ADJ
SW7503 VSS0062 ESD14182
D7503 MA165 MA150 1SS53
D7505 MA165 MA150 1SS53
SW7502 EVQQJ104K
OTR
D7506 MA165 MA150 1SS53
D7508 MA165
D7507 MA165 MA150 1SS53
SW7504 ~ SW7509 EVQQJ104K
SW7504
SW7505
SW7506
SW7507
SW7509
SW7508
ON
OFF
DAY
HOUR
MIN-UP
MIN-DOWN
C7501 0.01
IC7501 MN1435VXB
Vss
CO11
CO10
CO9
CO8
CO7
CO6
CO5
CO4
CO3
CO2
CO1
COø
AI3
AI2
AI1
AIø
BI3
BI2
BI1
OSC
VDD
DO7
DO6
DO5
DO4
DO3
DO2
DO1
DOø
SNS1
SNSø
CSLCT
RST
TST
EO3
EO2
EO1
EOø
BIø
TP7502
C7502 100P NPO
R7505 100KB
CLOCK ADJ
X7501 VCR0031
D7503 2SD636 2SD637 2SC1684 2SC1685 Q.R.S.T
R7506 27K
R7507 47K
2SC945A 50Hz OSC
R7509 47K
Q7501 2SD636 2SC1684 2SC945A Q.R.S.T
RESET
R7510 15K
D7510 MA165 MA150 1SS53
D7509 RD12JB1
DP7501 VSL0010
COL
SUN
MON
TUE
WED
THU
ON
AM
OFF
PM
R7202 68K
R7210 680 1/4W
R7204 10K
D7249 MA165 1SS53 MA150
R7208 100K
C7201 10V1
R7206 100
AFC
R7223 1200
SW7225 ESE153A
ON
OFF
R7203 15K
Q7201 2SD636 2SC1684 2SC945A Q.R.S.T
R7205 15K
Q7202 2SB641 2SA564 2SA733 Q.R.S.T
R7201 6800
C7203 0.01
R7207 100K
D7201
D7202
D7203
D7204
D7205
D7206
D7207
D7208
D7209
D7210
D7211
D7212
D7213
D7214
D7215
D7216
D7217
D7218
D7219
D7220
D7221
D7222
D7223
D7224
SW7201
SW7202
SW7203
SW7204
SW7205
SW7206
SW7207
SW7208
SW7209
SW7210
SW7211
SW7212
D7225
D7226
D7227
D7228
D7229
D7230
D7231
D7232
D7233
D7234
D7235
D7236
D7237
D7238
D7239
D7240
D7241
D7242
D7243
D7244
D7245
D7246
D7247
D7248
R7211 20KB
R7212 20KB
R7213 20KB
R7214 20KB
R7215 20KB
R7216 20KB
R7217 20KB
R7218 20KB
R7219 20KB
R7220 20KB
R7221 20KB
R7222 20KB
I (VL)
III VH
U
SW7213
SW7214
SW7215
SW7216
SW7217
SW7218
SW7219
SW7220
SW7221
SW7222
SW7223
SW7224
D7201 ~ D7212 LN31GCPHLMU
D7213 ~ D7224 D7225 ~ D7236 MA161
D7237 ~ D7248 MA161C
SW7201 ~ SW7212 VSP0121
SW7213 ~ SW7224 EVQREAL05
C7202 0.022
P7005
1 DEF. P7002-10
2 ANT SW P7002-9
3 GND P7002-8
4 12V(F) P7002-7
5 +12V(B) P7002-6
6 AFC SW P7002-5
7 BT P7002-4
8 U P7002-3
9 I (VL) P7002-2
10 +33V P7002-1

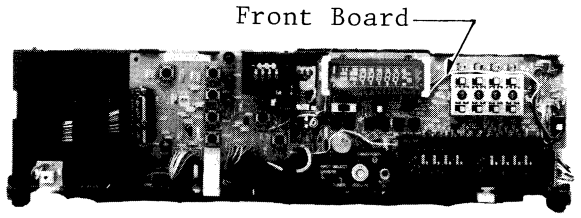
THE MEASUREM
IN THE FOLLOW
1) MODE SELE
2) SELECTION

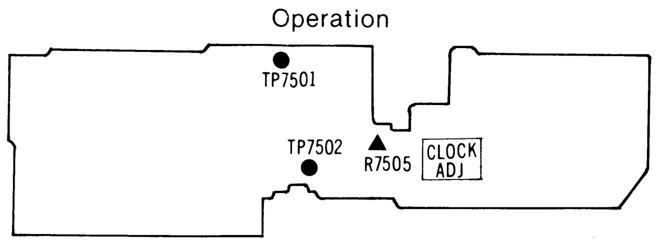
IAGRAM *(NV-333EO)*

Front Board	
Q6501	E-3
Q7201	B-5
Q7202	B-6
Q7501	D-8
Q7502	F-5
Q7503	F-9
IC7501	E-7


IC7501
MN1435VXB
Vss
CO11
CO10
CO9
CO8
CO7
CO6
CO5
CO4
CO3
CO2
CO1
CO0
AI3
AI2
AI1
AI0
BI3
BI2
BI1
OSC
VDD
DO7
DO6
DO5
DO4
DO3
DO2
DO1
DO0
SNS1
SNS0
CSLCT
RST
TST
EO3
EO2
EO1
EO0
BI0
TP7502
TP7501
Q7502
2SB642
2SA564A
Q7501
2SD636
2SC1684
2SC945A
Q.R.S.T
Q7503
2SD636
2SD637
2SC1684
2SC1685
Q.R.S.T
2SC945A
50Hz OSC
X7501
VCR0031
C7502
100P NPO
R7505 100KB
CLOCK ADJ.
VTR
SW7227
VSP0111
TIMER REC
SW7501
VSP0111
MODE
PROG
NORMAL
ADJ
SW7503
VSS0062
ESD14182
SW7502
EVQQJ104K
OTR
RESET
DP7501
VSL0010
P6008
GND
GND
AC2.6V
AC2.6V
REG17V
REG-13V
BJ6008-1
BJ6008-2
BJ6008-3
BJ6008-4
BJ6008-5
BJ6008-6
D7511
RD6.8JB2
SUN
MON
TUE
WED
THU
FRI
SAT
ON
OFF
AM
PM
OTR
CH
SW7504
SW7505
SW7506
SW7507
SW7509
SW7508
ON
OFF
DAY
HOUR
MIN-UP
MIN-DOWN
REC
PLAY
Q7201
2SD636
2SC1684
2SC945A
Q.R.S.T
Q7202
2SB641
2SA564
2SA733
Q.R.S.T
AFC
SW7225
ESE153A
SW7213~SW7224
EVQREAL05
P7005
DEF.
ANT SW
GND
12V(F)
+12V(B)
AFC SW
BT
U
I (VL)
+33V
P7002-10
P7002-9
P7002-8
P7002-7
P7002-6
P7002-5
P7002-4
P7002-3
P7002-2
P7002-1
RX7502
EXBEQ9473K(J)
RX7501
EXBEQ7473K(J)
SEGMENTS CONTROL SIGNAL.
GRIDS CONTROL SIGNAL.
4
5
6
7
8
9
10
11

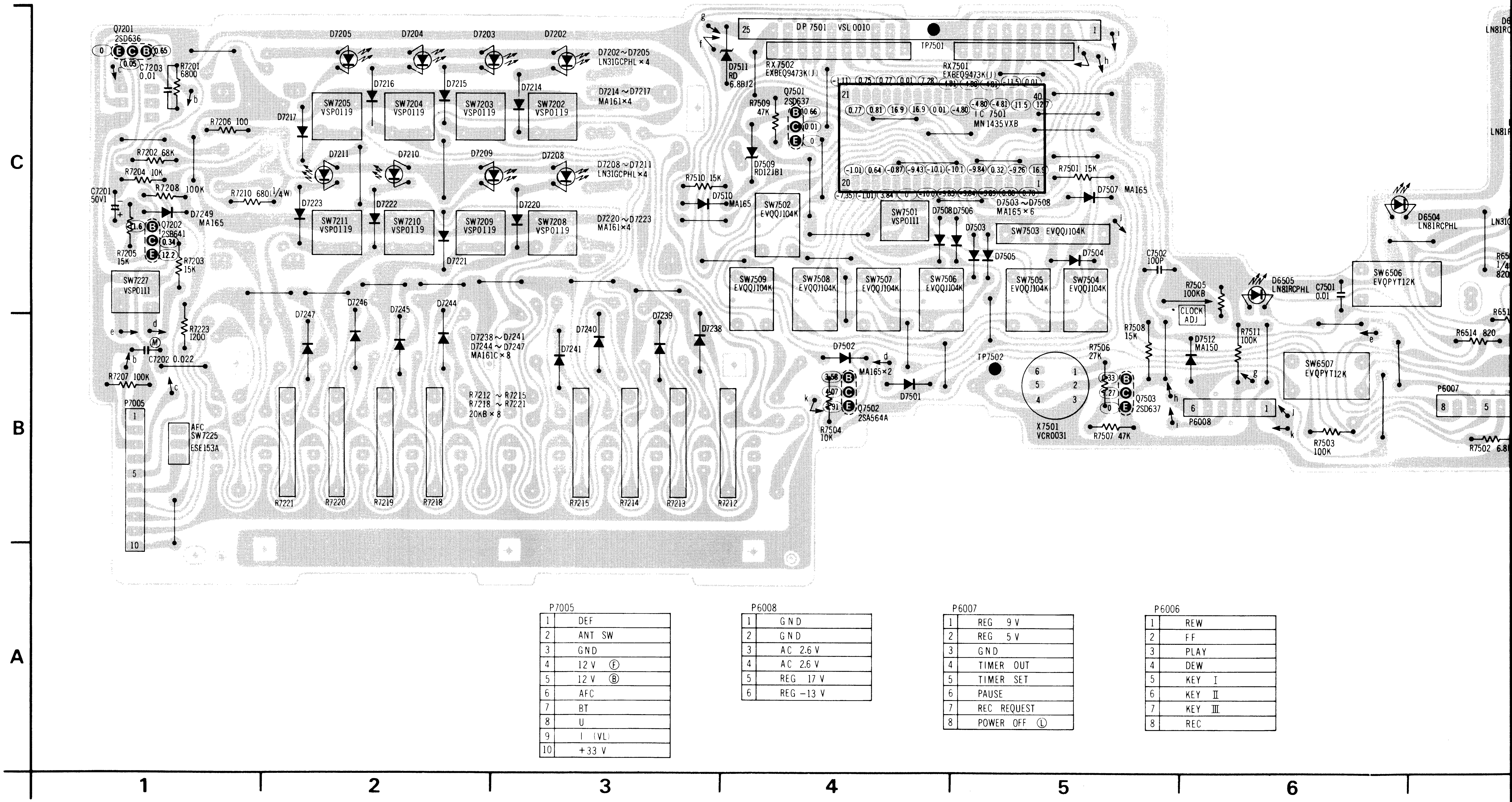
THE MEASUREMENT MODE OF THE D.C. VOLTAGE ON THIS DIAGRAM
IN THE FOLLOWING CONDITION.
1) MODE SELECTOR : CLOCK
2) SELECTION TIME : MON 0:00


Front Board


Operation
TP7501
TP7502
R7505
CLOCK ADJ

Front Board C.B.A	
Q6501	B-8
Q7201	C-1
Q7202	C-1
Q7501	C-4
Q7502	B-4
Q7503	B-5
IC7501	C-4

FRONT BOARD . VEP07124D)


C
B
A
1
2
3
4
5
6
Q7201 2SD636
C7203 0.01
R7201 6800
R7206 100
R7202 68K
R7204 10K
R7208 100K
C7201 50V1
D7249 MA165
Q7202 2SB641
R7205 15K
R7203 15K
R7210 680 1/4W
SW7227 VSP0111
R7223 1200
C7202 0.022
R7207 100K
P7005
AFC SW7225 ESE153A
D7205
D7204
D7203
D7202
D7202～D7205 LN31GCPHL × 4
D7214～D7217 MA161×4
SW7205 VSP0119
SW7204 VSP0119
SW7203 VSP0119
SW7202 VSP0119
D7208～D7211 LN31GCPHL×4
SW7211 VSP0119
SW7210 VSP0119
SW7209 VSP0119
SW7208 VSP0119
D7220～D7223 MA161×4
D7238～D7241
D7244～D7247
MA161C×8
R7212～R7215
R7218～R7221
20kB×8
R7221
R7220
R7219
R7218
R7215
R7214
R7213
R7212
DP 7501 VSL 0010
TP7501
RX7502 EXBEQ9473K(J)
RX7501 EXBEQ9473K(J)
D7511 RD 6.8BJ2
R7509 47K
Q7501 2SD637
D7509 RD12JB1
IC 7501 MN1435VXB
R7510 15K
D7510 MA165
SW7502 EVQQJ104K
SW7501 VSP0111
D7508
D7506
D7503～D7508 MA165×6
R7501 15K
D7507 MA165
SW7503 EVQQJ104K
D7503
D7505
D7504
SW7509 EVQQJ104K
SW7508 EVQQJ104K
SW7507 EVQQJ104K
SW7506 EVQQJ104K
SW7505 EVQQJ104K
SW7504 EVQQJ104K
C7502 100P
R7505 100KB
CLOCK ADJ
D7502
MA165×2
D7501
TP7502
Q7502 2SA564A
R7504 10K
X7501 VCR0031
R7506 27K
Q7503 2SD637
R7507 47K
R7508 15K
D7512 MA150
R7511 100K
P6008
D6505 LN81RCPHL
C7501 0.01
D6504 LN81RCPHL
SW6506 EVQPYT12K
SW6507 EVQPYT12K
R6514 820
R7503 100K
P6007
R7502

P7005

1	DEF
2	ANT SW
3	GND
4	12 V Ⓕ
5	12 V Ⓑ
6	AFC
7	BT
8	U
9	I (VL)
10	+33 V

P6008

1	GND
2	GND
3	AC 2.6 V
4	AC 2.6 V
5	REG 17 V
6	REG −13 V

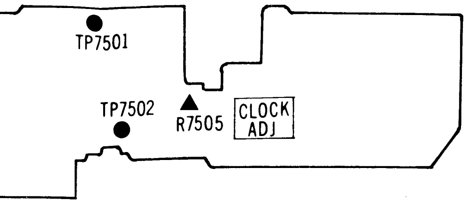
P6007

1	REG 9 V
2	REG 5 V
3	GND
4	TIMER OUT
5	TIMER SET
6	PAUSE
7	REC REQUEST
8	POWER OFF Ⓛ

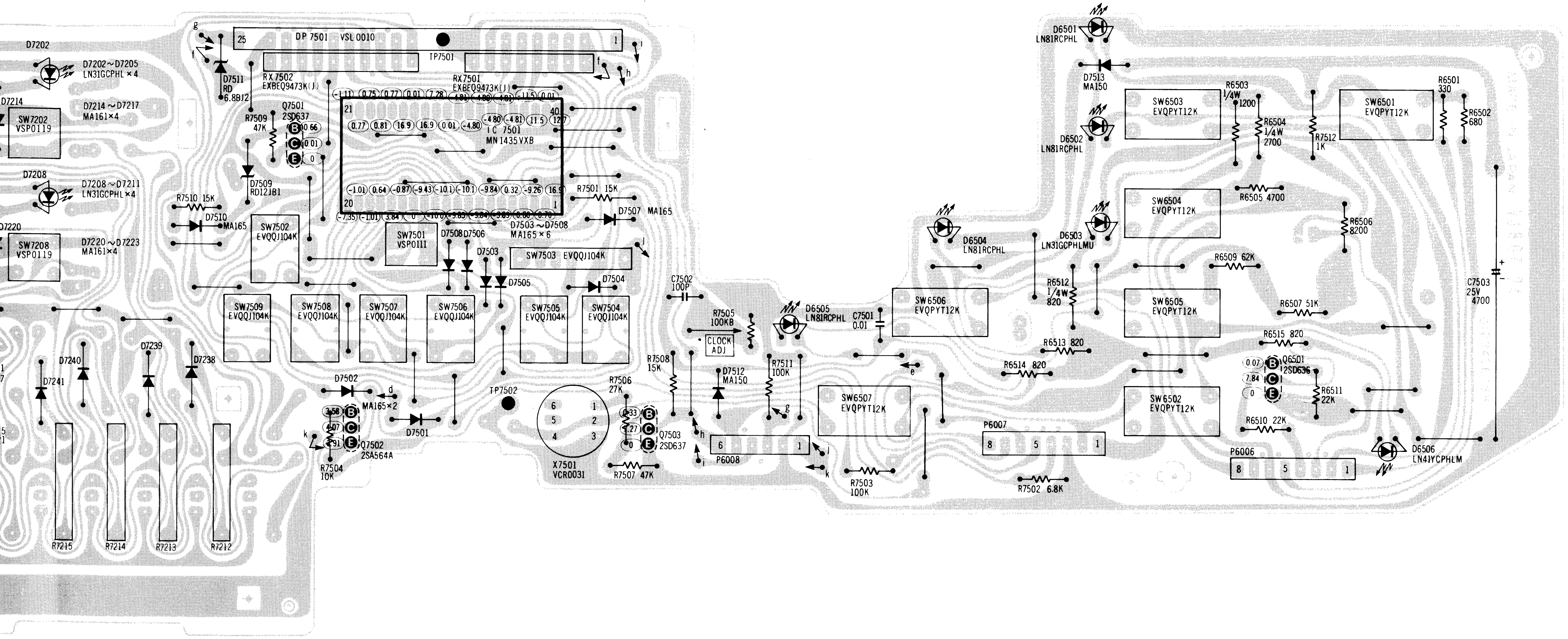
P6006

1	REW
2	FF
3	PLAY
4	DEW
5	KEY Ⅰ
6	KEY Ⅱ
7	KEY Ⅲ
8	REC

Operation


TP7501
TP7502
R7505
CLOCK ADJ

Front Board C.B.A	
Q6501	B-8
Q7201	C-1
Q7202	C-1
Q7501	C-4
Q7502	B-4
Q7503	B-5
IC7501	C-4


D7202
D7202～D7205 LN31GCPHL × 4
D7214
D7214～D7217 MA161×4
SW7202 VSP0119
D7208
D7208～D7211 LN31GCPHL×4
D7220
SW7208 VSP0119
D7220～D7223 MA161×4
DP 7501 VSL 0010
25
1
TP7501
D7511 RD 6.8BJ2
RX7502 EXBEQ9473K(J)
RX7501 EXBEQ9473K(J)
Q7501 2SD637
R7509 47K
IC 7501 MN1435VXB
21
40
20
1
D7509 RD12JB1
R7510 15K
D7510 MA165
SW7502 EVQQJ104K
SW7501 VSP0111
D7508
D7506
D7503～D7508 MA165 × 6
R7501 15K
D7507 MA165
D7503
D7505
D7504
SW7503 EVQQJ104K
SW7509 EVQQJ104K
SW7508 EVQQJ104K
SW7507 EVQQJ104K
SW7506 EVQQJ104K
SW7505 EVQQJ104K
SW7504 EVQQJ104K
C7502 100P
R7505 100KB
CLOCK ADJ
D7239
D7240
D7238
D7241
D7502
MA165×2
D7501
Q7502 2SA564A
R7504 10K
TP7502
X7501 VCR0031
R7506 27K
Q7503 2SD637
R7507 47K
R7508 15K
D7512 MA150
R7511 100K
P6008
D6505 LN81RCPHL
C7501 0.01
R7215
R7214
R7213
R7212
D6501 LN81RCPHL
D7513 MA150
D6502 LN81RCPHL
D6504 LN81RCPHL
D6503 LN31GCPHLMU
SW6503 EVQPYT12K
R6503 1/4W 1200
R6504 1/4W 2700
R7512 1K
SW6501 EVQPYT12K
R6501 330
R6502 680
SW6504 EVQPYT12K
R6505 4700
R6506 8200
R6509 62K
SW6506 EVQPYT12K
R6512 1/4W 820
SW6505 EVQPYT12K
R6507 51K
C7503 25V 4700
R6515 820
R6513 820
R6514 820
Q6501 2SD636
R6511 22K
SW6507 EVQPYT12K
SW6502 EVQPYT12K
R6510 22K
P6007
P6006
D6506 LN41YCPHLM
R7503 100K
R7502 6.8K

P7005

1	DEF
2	ANT SW
3	GND
4	12 V Ⓕ
5	12 V Ⓑ
6	AFC
7	BT
8	U
9	I (VL)
10	+33 V

P6008

1	GND
2	GND
3	AC 2.6 V
4	AC 2.6 V
5	REG 17 V
6	REG -13 V

P6007

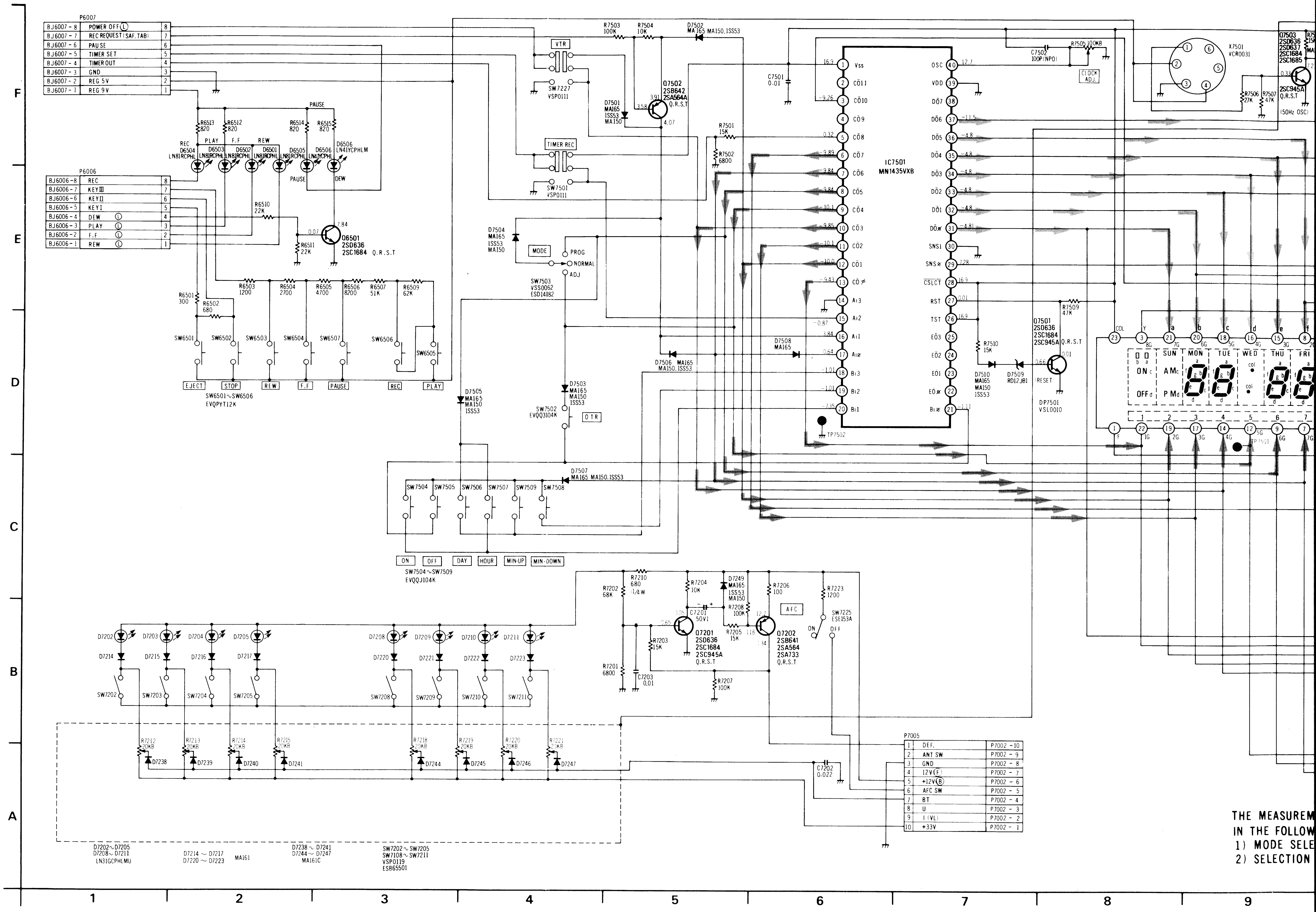
1	REG 9 V
2	REG 5 V
3	GND
4	TIMER OUT
5	TIMER SET
6	PAUSE
7	REC REQUEST
8	POWER OFF Ⓛ

P6006

1	REW
2	FF
3	PLAY
4	DEW
5	KEY Ⅰ
6	KEY Ⅱ
7	KEY Ⅲ
8	REC

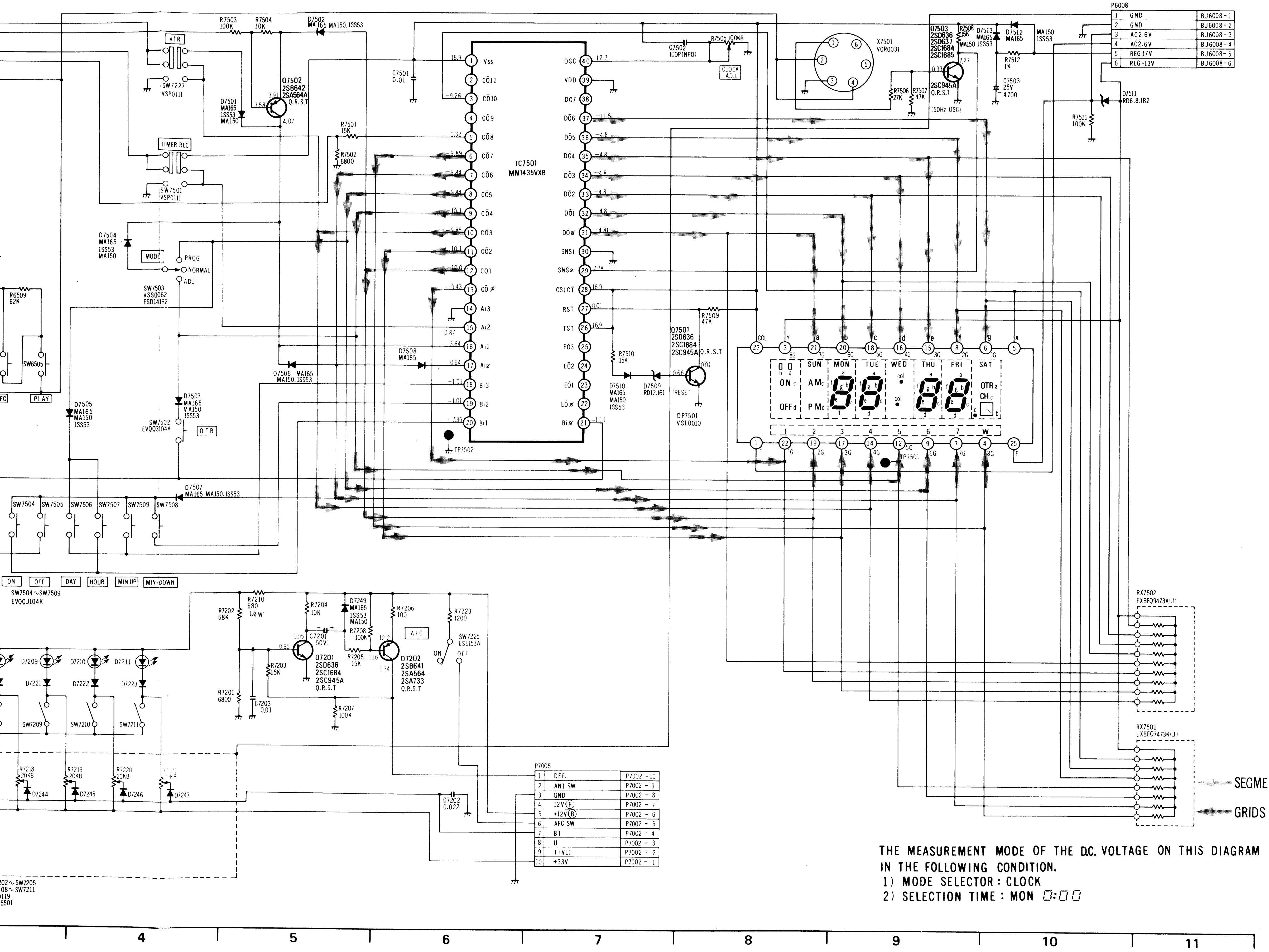
3 4 5 6 7 8 9

FRONT BOARD SCHEMATIC DIAGRAM (*NV-333B*)


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
P6007
BJ6007 - 8 POWER OFF Ⓛ
BJ6007 - 7 REC REQUEST (SAF. TAB)
BJ6007 - 6 PAUSE
BJ6007 - 5 TIMER SET
BJ6007 - 4 TIMER OUT
BJ6007 - 3 GND
BJ6007 - 2 REG 5V
BJ6007 - 1 REG 9V
P6006
BJ6006 - 8 REC
BJ6006 - 7 KEY III
BJ6006 - 6 KEY II
BJ6006 - 5 KEY I
BJ6006 - 4 DEW Ⓛ
BJ6006 - 3 PLAY Ⓛ
BJ6006 - 2 F.F Ⓛ
BJ6006 - 1 REW Ⓛ
PAUSE
REC
PLAY
F.F
REW
DEW
D6504 LN81RCPHL
D6503 LN81RCPHL
D6502 LN81RCPHL
D6501 LN81RCPHL
D6505 LN81RCPHL
D6506 LN41YCPHLM
R6513 820
R6512 820
R6514 820
R6515 820
R6510 22K
R6511 22K
Q6501 2SD636 2SC1684 Q.R.S.T
R6501 300
R6502 680
R6503 1200
R6504 2700
R6505 4700
R6506 8200
R6507 51K
R6509 62K
SW6501
SW6502
SW6503
SW6504
SW6507
SW6506
SW6505
EJECT
STOP
REW
F.F
PAUSE
REC
PLAY
SW6501～SW6506 EVQPYT12K
VTR
SW7227 VSP0111
TIMER REC
SW7501 VSP0111
R7503 100K
R7504 10K
D7502 MA165 MA150, 1SS53
D7501 MA165 1SS53 MA150
Q7502 2SB642 2SA564A Q.R.S.T
R7501 15K
R7502 6800
C7501 0.01
D7504 MA165 1SS53 MA150
MODE
PROG
NORMAL
ADJ
SW7503 VSS0062 ESD14182
D7508 MA165
D7506 MA165 MA150, 1SS53
D7505 MA165 MA150 1SS53
D7503 MA165 MA150 1SS53
SW7502 EVQQ3104K
OTR
D7507 MA165 MA150, 1SS53
SW7504
SW7505
SW7506
SW7507
SW7509
SW7508
ON
OFF
DAY
HOUR
MIN-UP
MIN-DOWN
SW7504～SW7509 EVQQJ104K
IC7501 MN1435VXB
Vss
CO11
CO10
CO9
CO8
CO7
CO6
CO5
CO4
CO3
CO2
CO1
COφ
AI3
AI2
AI1
AIφ
BI3
BI2
BI1
OSC
VDD
DO7
DO6
DO5
DO4
DO3
DO2
DO1
DOφ
SNS1
SNSφ
CSLCT
RST
TST
EO3
EO2
EO1
EOφ
BIφ
TP7502
C7502 100P (NPO)
R7505 100KB
CLOCK ADJ.
X7501 VCR0031
Q7503 2SD636 2SD637 2SC1684 2SC1685
R7506 27K
R7507 47K
2SC945A Q.R.S.T
(50Hz OSC)
R7509 47K
Q7501 2SD636 2SC1684 2SC945A Q.R.S.T
R7510 15K
D7510 MA165 MA150 1SS53
D7509 RD12JB1
RESET
DP7501 VSL0010
SUN
MON
TUE
WED
THU
FRI
ON
OFF
AM
PM
TP7501
R7210 680 1/4W
R7202 68K
R7204 10K
D7249 MA165 1SS53 MA150
R7206 100
R7223 1200
C7201 50V1
R7208 100K
AFC
SW7225 ESE153A
ON
OFF
R7203 15K
Q7201 2SD636 2SC1684 2SC945A Q.R.S.T
R7205 15K
Q7202 2SB641 2SA564 2SA733 Q.R.S.T
R7201 6800
C7203 0.01
R7207 100K
D7202
D7203
D7204
D7205
D7208
D7209
D7210
D7211
D7214
D7215
D7216
D7217
D7220
D7221
D7222
D7223
SW7202
SW7203
SW7204
SW7205
SW7208
SW7209
SW7210
SW7211
R7212 20KB
R7213 20KB
R7214 20KB
R7215 20KB
R7218 20KB
R7219 20KB
R7220 20KB
R7221 20KB
D7238
D7239
D7240
D7241
D7244
D7245
D7246
D7247
C7202 0.022
P7005
1 DEF. P7002 - 10
2 ANT SW P7002 - 9
3 GND P7002 - 8
4 12V(F) P7002 - 7
5 +12V(B) P7002 - 6
6 AFC SW P7002 - 5
7 BT P7002 - 4
8 U P7002 - 3
9 I (VL) P7002 - 2
10 +33V P7002 - 1
D7202～D7205 D7208～D7211 LN31GCPHLMU
D7214～D7217 D7220～D7223 MA161
D7238～D7241 D7244～D7247 MA161C
SW7202～SW7205 SW7108～SW7211 VSP0119 ESB65501

THE MEASUREM
IN THE FOLLOW
1) MODE SELE
2) SELECTION

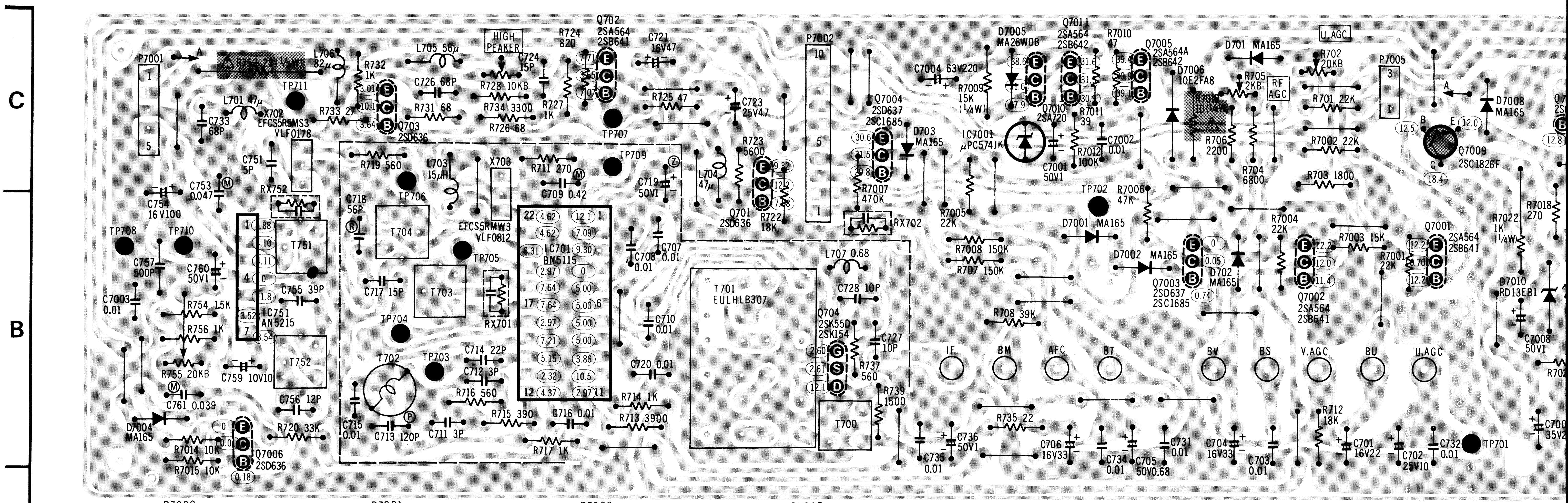
IAGRAM (*NV-333B*)


IC7501
MN1435VXB
Vss
OSC
VDD
C̄O11
C̄O10
C̄O9
C̄O8
C̄O7
C̄O6
C̄O5
C̄O4
C̄O3
C̄O2
C̄O1
C̄Oø
AI3
AI2
AI1
AIø
BI3
BI2
BI1
D̄O7
D̄O6
D̄O5
D̄O4
D̄O3
D̄O2
D̄O1
D̄Oø
SNS1
SNSø
C̄S̄L̄C̄T̄
RST
TST
EŌ3
EŌ2
EO1
EŌø
BIø
TP7502
R7503 100K
R7504 10K
D7502 MA165 MA150,1SS53
C7501 0.01
C7502 100P(NPO)
R7505 100KB
CLOCK ADJ.
X7501 VCR0031
Q7503 2SD636 2SD637 2SC1684 2SC1685
R7508 15K
D7513 MA165 MA150,1SS53
D7512 MA165
MA150 1SS53
R7512 1K
C7503 25V 4700
R7506 27K
R7507 47K
2SC945A Q.R.S.T
(50Hz OSC)
D7511 RD6.8JB2
R7511 100K
P6008
1 GND BJ6008-1
2 GND BJ6008-2
3 AC2.6V BJ6008-3
4 AC2.6V BJ6008-4
5 REG17V BJ6008-5
6 REG-13V BJ6008-6
VTR
SW7227 VSP0111
TIMER REC
SW7501 VSP0111
Q7502 2SB642 2SA564A Q.R.S.T
D7501 MA165 1SS53 MA150
R7501 15K
R7502 6800
D7504 MA165 1SS53 MA150
MODE
PROG
NORMAL
ADJ
SW7503 VSS0062 ESD14182
R6509 62K
SW6505
PLAY
D7506 MA165 MA150,1SS53
D7508 MA165
D7503 MA165 MA150 1SS53
D7505 MA165 MA150 1SS53
SW7502 EVQQ3104K
OTR
D7507 MA165 MA150,1SS53
R7510 15K
D7510 MA165 MA150 1SS53
D7509 RD12JB1
Q7501 2SD636 2SC1684 2SC945A Q.R.S.T
R7509 47K
RESET
DP7501 VSL0010
SUN MON TUE WED THU FRI SAT
ON
OFF
AM
PM
OTR
CH
TP7501
SW7504 SW7505 SW7506 SW7507 SW7509 SW7508
ON OFF DAY HOUR MIN-UP MIN-DOWN
SW7504~SW7509 EVQQJ104K
R7202 68K
R7210 680 1/4W
R7204 10K
D7249 MA165 1SS53 MA150
R7206 100
R7223 1200
C7201 50V1
R7208 100K
AFC
SW7225 ESE153A
ON
OFF
R7203 15K
R7205 15K
Q7201 2SD636 2SC1684 2SC945A Q.R.S.T
Q7202 2SB641 2SA564 2SA733 Q.R.S.T
R7201 6800
C7203 0.01
R7207 100K
D7209 D7210 D7211
D7221 D7222 D7223
SW7209 SW7210 SW7211
R7218 20KB
R7219 20KB
R7220 20KB
D7244 D7245 D7246 D7247
C7202 0.022
P7005
1 DEF. P7002-10
2 ANT SW P7002-9
3 GND P7002-8
4 12V(F) P7002-7
5 +12V(B) P7002-6
6 AFC SW P7002-5
7 BT P7002-4
8 U P7002-3
9 I (VL) P7002-2
10 +33V P7002-1
RX7502 EXBEQ9473K(J)
RX7501 EXBEQ7473K(J)
SEGMENTS CONTROL SIGNAL.
GRIDS CONTROL SIGNAL.
4
5
6
7
8
9
10
11

Front Board	
Q6501	E-3
Q7201	B-5
Q7202	B-6
Q7501	D-8
Q7502	F-5
Q7503	F-9
IC7501	E-7

THE MEASUREMENT MODE OF THE D.C. VOLTAGE ON THIS DIAGRAM
IN THE FOLLOWING CONDITION.
1) MODE SELECTOR: CLOCK
2) SELECTION TIME: MON 0:00

TV DEMODULATOR BOARD
(*NV-333E, EG:* VEP07123A/*NV-333EO:* VEP07123C)


C
B
A
1
2
3
4
5
P7001
R752 22(1/2W)
L706 82μ
R732 1K
L705 56μ
HIGH PEAKER
C724 15P
R724 820
Q702 2SA564 2SB641
C721 16V47
P7002
C7004 63V220
D7005 MA26W0B
Q7011 2SA564 2SB642
R7010 47
Q7005 2SA564A 2SB642
D701 MA165
U.AGC
R702 20KB
P7005
TP711
L701 47μ
X702 EFCS5R5MS3 VLF0178
C733 68P
R733 27
Q703 2SD636
C726 68P
C731 68
R728 10KB
R734 3300
R726 68
R727 1K
R725 47
C723 25V4.7
TP707
Q7004 2SD637 2SC1685
D703 MA165
IC7001 μPC574JK
Q7010 2SA720
R7011 39
C7002 0.01
R7012 100K
C7001 50V1
D7006 10E2FA8
R7013 10(1/4W)
R705 2KB
RF AGC
R706 2200
R704 6800
R701 22K
R7002 22K
R703 1800
Q7009 2SC1826F
D7008 MA165
C751 5P
RX752
R719 560
L703 15μH
X703
R711 270
TP709
C709 0.42
C719 50V1
L704 47μ
R723 5600
Q701 2SD636
R722 18K
R7007 470K
RX702
R7009 15K (1/4W)
C754 16V100
C753 0.047
TP706
C718 56P
T704
EFCS5RMW3 VLF0812
IC701 BN5115
C708 0.01
C707 0.01
TP702
R7006 47K
D7001 MA165
R7005 22K
R7008 150K
R707 150K
D7002 MA165
D702 MA165
Q7003 2SD637 2SC1685
R7004 22K
R7003 15K
Q7002 2SA564 2SB641
R7001 22K
Q7001 2SA564 2SB641
R7022 1K (1/4W)
R7018 270
D7010 RD13EB1
C7008 50V1
TP708
TP710
C757 500P
C760 50V1
IC751 AN5215
T751
C755 39P
C7003 0.01
R754 1.5K
R756 1K
T752
R755 20KB
C759 10V10
C717 15P
T703
TP705
RX701
TP704
T701 EULHLB307
L707 0.68
C728 10P
Q704 2SK55D 2SK154
C727 10P
R737 560
R739 1500
C710 0.01
T702
TP703
C714 22P
C712 3P
C720 0.01
R708 39K
IF
BM
AFC
BT
BV
BS
V.AGC
BU
U.AGC
C761 0.039
D7004 MA165
R716 560
R715 390
C716 0.01
R714 1K
R713 3900
C756 12P
R720 33K
R7014 10K
R7015 10K
Q7006 2SD636
C715 0.01
C713 120P
C711 3P
R717 1K
T700
C735 0.01
C736 50V1
R735 22
C706 16V33
C734 0.01
C705 50V0.68
C731 0.01
C704 16V33
C703 0.01
R712 18K
C701 16V22
C702 25V10
C732 0.01
TP701

P7002

1	30V
2	VL
3	U
4	BT
5	AFC
6	12V
7	12V Ⓕ
8	GND
9	ANT BS
10	DEF

P7001

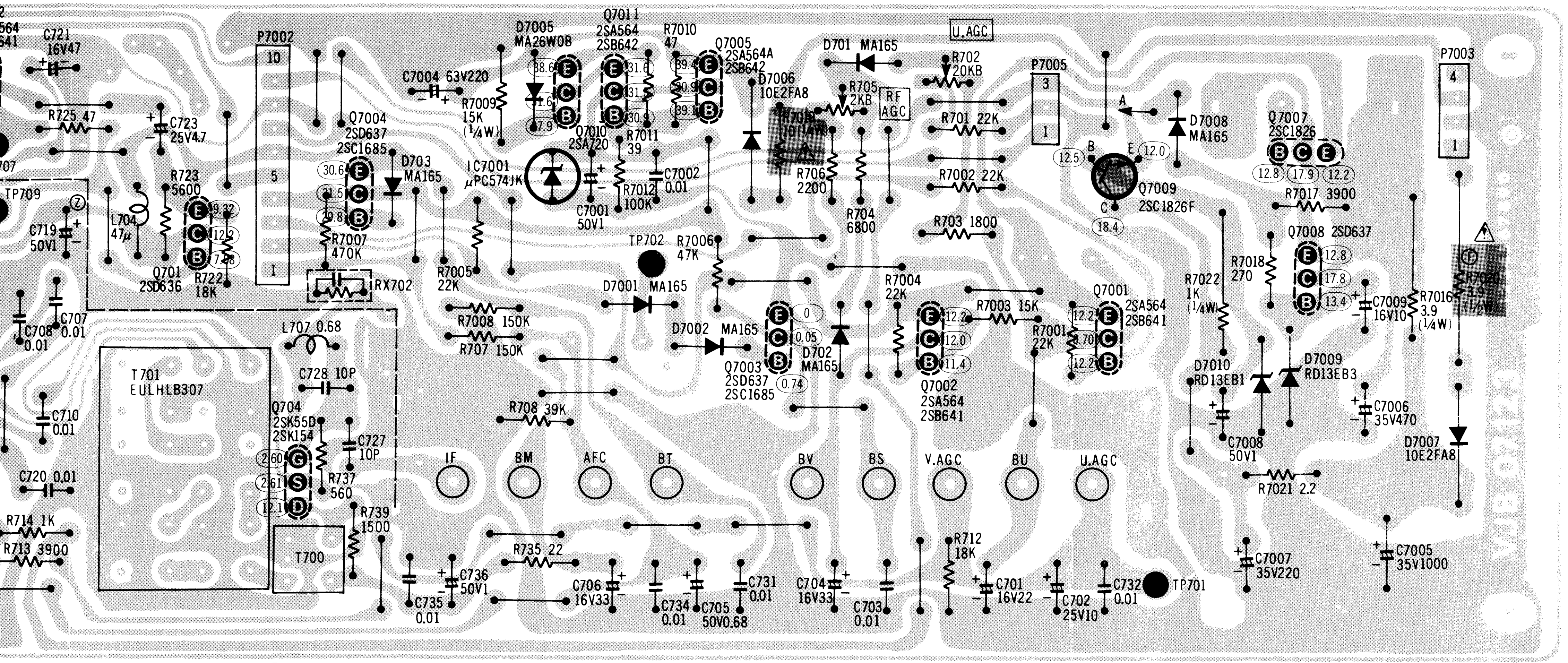
1	POWER OFF Ⓛ
2	VIDEO OUT
3	GND
4	AUDIO CUT

P7003

1	AC 20V
2	GND
3	AC 36V

P7005

1	ANT BS
2	GND
3	12V Ⓕ


P7002
10
5
1
C721 16V47
R725 47
C723 25V4.7
R723 5600
TP709
C719 50V1
L704 47μ
Q701 2SD636
R722 18K
C708 0.01
C707 0.01
C710 0.01
C720 0.01
R714 1K
R713 3900
T701 EULHLB307
L707 0.68
C728 10P
Q704 2SK55D 2SK154
C727 10P
R737 560
R739 1500
T700
Q7004 2SD637 2SC1685
D703 MA165
R7007 470K
RX702
C7004 63V220
R7009 15K (1/4W)
IC7001 μPC574JK
R7005 22K
R7008 150K
R707 150K
R708 39K
C736 50V1
C735 0.01
R735 22
C706 16V33
C734 0.01
C705 50V0.68
C731 0.01
D7005 MA26W0B
Q7011 2SA564 2SB642
R7010 47
Q7005 2SA564A 2SB642
Q7010 2SA720
R7011 39
C7001 50V1
R7012 100K
C7002 0.01
TP702
R7006 47K
D7001 MA165
D7002 MA165
Q7003 2SD637 2SC1685
D702 MA165
D7006 10E2FA8
R7013 10(1/4W)
D701 MA165
R705 2KB
RF AGC
R706 2200
R704 6800
U.AGC
R702 20KB
R701 22K
R7002 22K
R703 1800
R7004 22K
Q7002 2SA564 2SB641
R7003 15K
R7001 22K
Q7001 2SA564 2SB641
P7005
3
1
A
D7008 MA165
Q7009 2SC1826F
Q7007 2SC1826
R7017 3900
Q7008 2SD637
R7018 270
R7022 1K (1/4W)
D7010 RD13EB1
D7009 RD13EB3
C7009 16V10
R7016 3.9 (1/4W)
C7006 35V470
C7008 50V1
P7003
4
1
R7020 3.9 (1/2W)
D7007 10E2FA8
R7021 2.2
IF
BM
AFC
BT
BV
BS
V.AGC
BU
U.AGC
C704 16V33
C703 0.01
R712 18K
C701 16V22
C702 25V10
C732 0.01
TP701
C7007 35V220
C7005 35V1000
VJB 07123

	AC 20V
	GND
	AC 36V

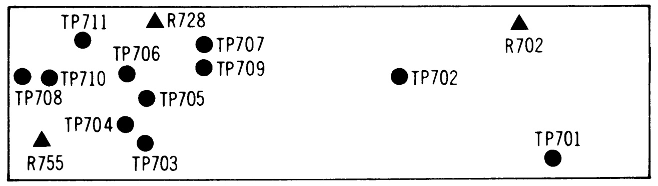
P7005

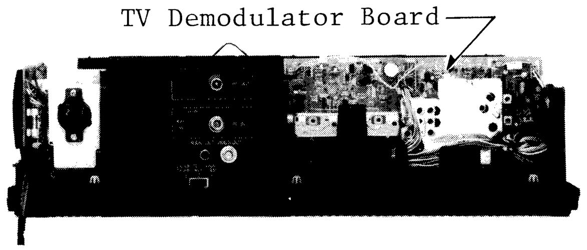
1	ANT BS
2	GND
3	12V Ⓕ

3 4 5 6

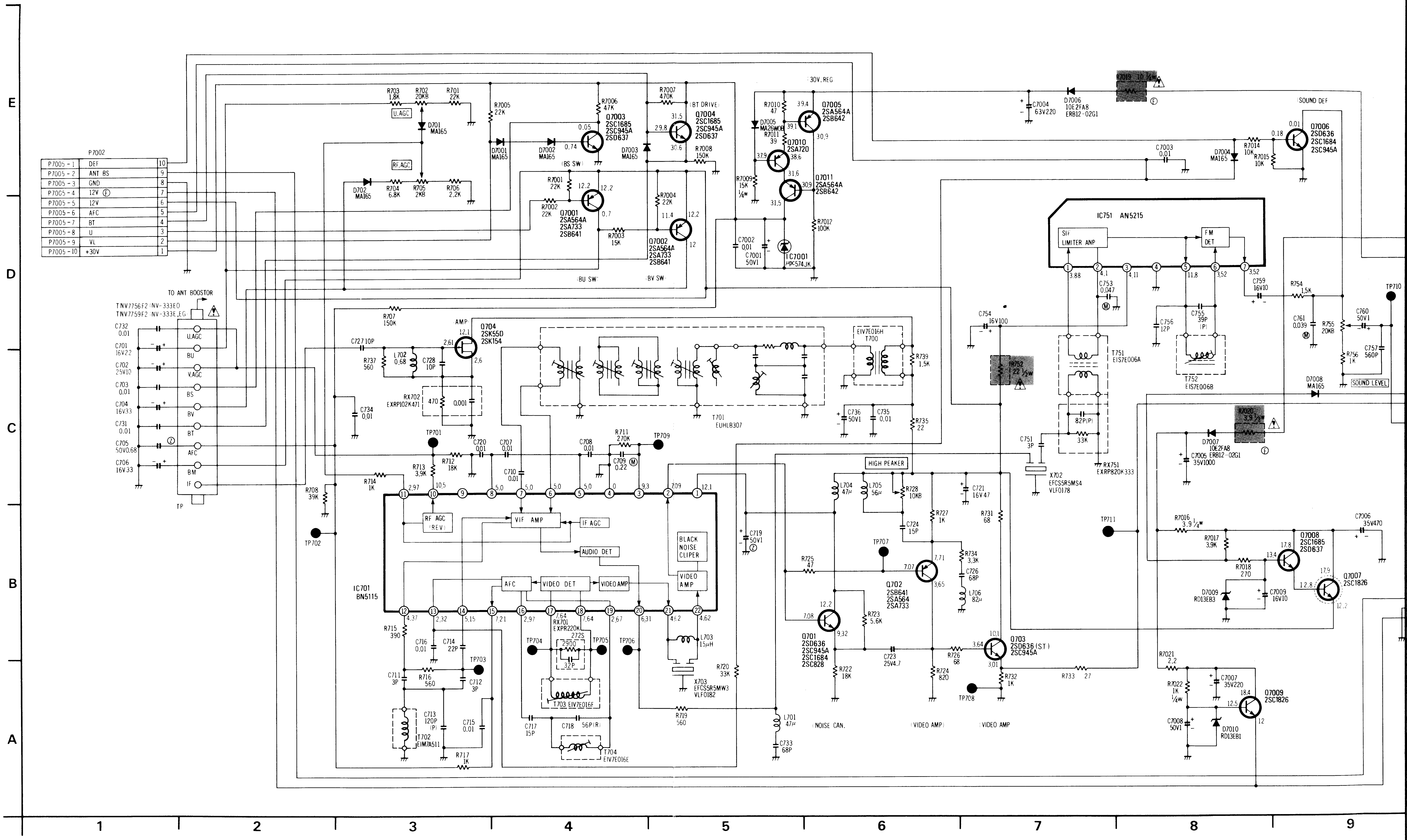
TV Demodulator C.B.A	
Q701	B-3
Q702	C-3
Q703	C-2
Q704	B-3
Q7001	B-6
Q7002	B-5
Q7003	B-5
Q7004	C-4
Q7005	C-4
Q7006	B-1
Q7007	C-6
Q7008	B-6
Q7009	C-6
Q7010	C-4
Q7011	C-4
IC701	B-2
IC751	B-1
IC7001	C-4

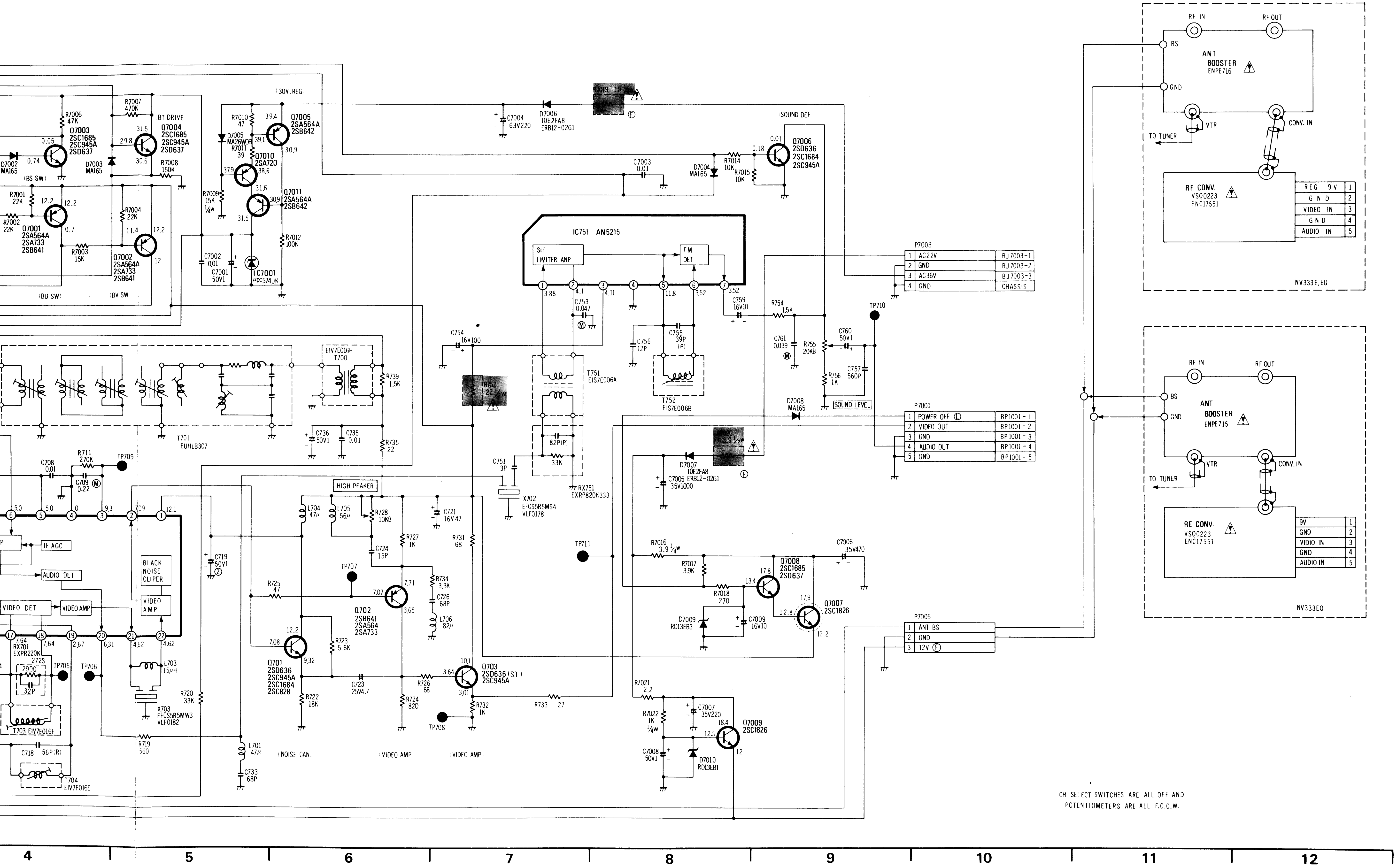
Demodulator


TP711
R728
TP707
TP709
TP706
TP710
TP708
TP705
TP704
R755
TP703
TP702
R702
TP701


TV Demodulator Board

TV DEMODULATOR SCHEMATIC DIAGRAM

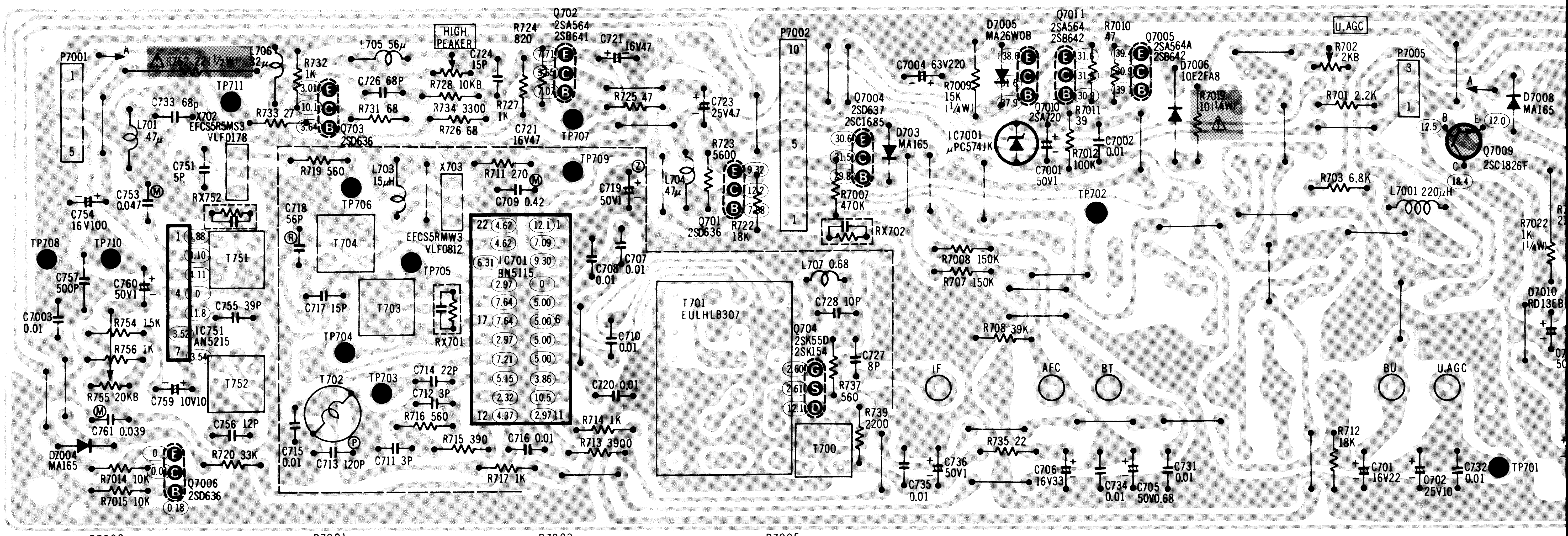

E
D
C
B
A
1
2
3
4
5
6
7
8
9
P7002
P7005-1 DEF 10
P7005-2 ANT BS 9
P7005-3 GND 8
P7005-4 12V Ⓕ 7
P7005-5 12V 6
P7005-6 AFC 5
P7005-7 BT 4
P7005-8 U 3
P7005-9 VL 2
P7005-10 +30V 1
TO ANT BOOSTOR
TNV7756F2 (NV-333EO)
TNV7759F2 (NV-333E,EG)
C732 0.01
C701 16V22
C702 25V10
C703 0.01
C704 16V33
C731 0.01
C705 50V0.68
C706 16V33
U.AGC
BU
V.AGC
BS
BV
BT
AFC
BM
IF
TP
R703 1.8K
R702 20KB
R701 22K
U.AGC
D701 MA165
RF.AGC
D702 MA165
R704 6.8K
R705 2KB
R706 2.2K
R7005 22K
D7001 MA165
D7002 MA165
R7006 47K
Q7003 2SC1685 2SC945A 2SD637
(BS SW)
D7003 MA165
R7001 22K
R7002 22K
Q7001 2SA564A 2SA733 2SB641
R7003 15K
R7007 470K
(BT DRIVE)
Q7004 2SC1685 2SC945A 2SD637
R7008 150K
R7004 22K
Q7002 2SA564A 2SA733 2SB641
(BU SW)
(BV SW)
30V. REG
R7010 47
D7005 MA26W08
R7011 39
Q7005 2SA564A 2SB642
Q7010 2SA720
Q7011 2SA564A 2SB642
R7009 15K 1/4W
R7012 100K
C7002 0.01
C7001 50V1
IC7001 μPC574JK
AMP
Q704 2SK55D 2SK154
R707 150K
C727 10P
R737 560
L702 0.68
C728 10P
RX702 EXRP102K471
470
0.001
C734 0.01
T701 EUHLB307
EIV7E016H T700
R739 1.5K
C736 50V1
C735 0.01
R735 22
TP701
TP709
R713 3.9K
R712 18K
C720 0.01
C707 0.01
C710 0.01
C708 0.01
R711 270K
C709 0.22
R714 1K
R708 39K
TP702
IC701 BN5115
RF AGC (REV)
VIF AMP
IF AGC
AUDIO DET
AFC
VIDEO DET
VIDEO AMP
BLACK NOISE CLIPER
VIDEO AMP
R715 390
C716 0.01
C714 22P
TP703
C711 3P
R716 560
C712 3P
C713 120P (P)
C715 0.01
T702 EIM7A511
R717 1K
RX701 EXPR220K
TP704
TP705
TP706
T703 EIV7E016F
C717 15P
C718
56P (R)
T704 EIV7E016E
L703 15μH
X703 EFCS5R5MW3 VLF0182
R719 560
R720 33K
L701 47μ
C733 68P
C719 50V1
HIGH PEAKER
L704 47μ
L705 56μ
R728 10KB
C721 16V47
C724 15P
R727 1K
R731 68
TP707
R725 47
R734 3.3K
C726 68P
L706 82μ
Q702 2SB641 2SA564 2SA733
Q701 2SD636 2SC945A 2SC1684 2SC828
R723 5.6K
R722 18K
C723 25V4.7
R726 68
R724 820
Q703 2SD636 (ST) 2SC945A
R732 1K
TP708
R733 27
NOISE CAN.
VIDEO AMP
VIDEO AMP
C7004 63V220
D7006 10E2FA8 ERB12-02G1
R7019 10 1/4W
SOUND DEF
C7003 0.01
D7004 MA165
R7014 10K
R7015 10K
Q7006 2SD636 2SC1684 2SC945A
IC751 AN5215
SIF LIMITER AMP
FM DET
C753 0.047
C756 12P
C755 39P (P)
T752 EIS7E006B
C759 16V10
R754 1.5K
TP710
C760 50V1
C761 0.039
R755 20KB
C757 560P
R756 1K
C754 16V100
R752 22 1/2W
T751 EIS7E006A
82P (P)
33K
RX751 EXRP820K333
C751 3P
X702 EFCS5R5MS4 VLF0178
D7008 MA165
SOUND LEVEL
R7020 3.9 1/2W
D7007 10E2FA8 ERB12-02G1
C7005 35V1000
TP711
R7016 3.9 1/4W
R7017 3.9K
C7006 35V470
Q7008 2SC1685 2SD637
R7018 270
D7009 RD13EB3
C7009 16V10
Q7007 2SC1826
R7021 2.2
R7022 1K 1/4W
C7007 35V220
Q7009 2SC1826
C7008 50V1
D7010 RD13EB1


130V. REG
(BT DRIVE)
Q7003 2SC1685 2SC945A 2SD637
Q7004 2SC1685 2SC945A 2SD637
Q7005 2SA564A 2SB642
Q7010 2SA720
Q7011 2SA564A 2SB642
Q7001 2SA564A 2SA733 2SB641
Q7002 2SA564A 2SA733 2SB641
IC7001 μPC574JK
(BS SW)
(BU SW)
(BV SW)
D7002 MA165
D7003 MA165
D7005 MA26WOB
R7006 47K
R7007 470K
R7008 150K
R7001 22K
R7002 22K
R7003 15K
R7004 22K
R7009 15K 1/4W
R7010 47
R7011 39
R7012 100K
C7001 50V1
C7002 0.01
C7004 63V220
D7006 10E2FA8 ERB12-02G1
R7019 10 1/4W
C7003 0.01
D7004 MA165
R7014 10K
R7015 10K
SOUND DEF
Q7006 2SD636 2SC1684 2SC945A
IC751 AN5215
SIF LIMITER AMP
FM DET
C753 0.047
C755 39P (P)
C756 12P
C759 16V10
T751 EIS7E006A
T752 EIS7E006B
82P(P)
33K
RX751 EXRP820K333
C751 3P
X702 EFCS5R5MS4 VLF0178
C754 16V100
R752 22 1/2W
EIV7E016H T700
R739 1.5K
T701 EUHLB307
C736 50V1
C735 0.01
R735 22
C708 0.01
R711 270K
C709 0.22
TP709
IF AGC
AUDIO DET
BLACK NOISE CLIPER
VIDEO AMP
VIDEO DET
C719 50V1
HIGH PEAKER
L704 47μ
L705 56μ
R728 10KB
C721 16V47
C724 15P
R727 1K
R731 68
TP707
R725 47
R734 3.3K
C726 68P
L706 82μ
Q702 2SB641 2SA564 2SA733
Q701 2SD636 2SC945A 2SC1684 2SC828
R723 5.6K
C723 25V4.7
R726 68
Q703 2SD636 (ST) 2SC945A
R722 18K
R724 820
R732 1K
TP708
R733 27
(NOISE CAN.)
(VIDEO AMP)
(VIDEO AMP)
RX701 EXPR220K
272S
2900
32P
TP705
TP706
L703 15μH
X703 EFCS5R5MW3 VLF0182
R720 33K
T703 EIV7E016F
C718 56P(R)
T704 EIV7E016E
R719 560
L701 47μ
C733 68P
R754 1.5K
C761 0.039
R755 20KB
C760 50V1
C757 560P
R756 1K
TP710
D7008 MA165
SOUND LEVEL
P7003
AC22V
GND
AC36V
GND
BJ7003-1
BJ7003-2
BJ7003-3
CHASSIS
P7001
POWER OFF
VIDEO OUT
GND
AUDIO OUT
GND
BP1001-1
BP1001-2
BP1001-3
BP1001-4
BP1001-5
R7020 3.9 1/4W
D7007 10E2FA8 ERB12-02G1
C7005 35V1000
TP711
R7016 3.9 1/4W
R7017 3.9K
R7018 270
C7006 35V470
Q7008 2SC1685 2SD637
Q7007 2SC1826
D7009 RD13EB3
C7009 16V10
P7005
ANT BS
GND
12V
R7021 2.2
R7022 1K 1/4W
C7007 35V220
C7008 50V1
D7010 RD13EB1
Q7009 2SC1826
RF IN
RF OUT
BS
GND
ANT BOOSTER ENPE716
TO TUNER
VTR
CONV. IN
RF CONV. VSQ0223 ENC17551
REG 9V
GND
VIDEO IN
GND
AUDIO IN
NV333E, EG
ANT BOOSTER ENPE715
RE CONV. VSQ0223 ENC17551
9V
GND
VIDIO IN
GND
AUDIO IN
NV333EO
4
5
6
7
8
9
10
11
12

CH SELECT SWITCHES ARE ALL OFF AND POTENTIOMETERS ARE ALL F.C.C.W.

TV Demodulator	
Q701	B-6
Q702	B-6
Q703	B-7
Q704	C-3
Q7004	E-5
Q7005	E-6
Q7006	E-9
Q7007	B-9
Q7008	B-9
Q7009	A-8
Q7010	E-5
Q7011	D-5
IC701	B-4
IC751	D-8
IC7001	D-5

TV DEMODULATOR BOARD VEP07123B)


C
B
A
1
2
3
4
5
P7001
R752 22 ½W
L706 82μ
R732 1K
L705 56μ
HIGH PEAKER
R724 820
Q702 2SA564 2SB641
C721 16V47
P7002
D7005 MA26W0B
Q7011 2SA564 2SB642
R7010 47
Q7005 2SA564A 2SB642
U.AGC
R702 2KB
P7005
D7008 MA165
TP711
C733 68p
X702 EFCS5R5MS3 VLF0178
L701 47μ
C726 68P
R728 10KB
C724 15P
R734 3300
R731 68
R727 1K
R726 68
R733 27
Q703 2SD636
C721 16V47
TP707
R725 47
C723 25V4.7
C7004 63V220
R7009 15K (¼W)
Q7004 2SD637 2SC1685
Q7010 2SA720
R7011 39
D7006 10E2FA8
R7019 10(¼W)
R701 2.2K
Q7009 2SC1826F
IC7001 μPC574JK
C7001 50V1
R7012 100K
C7002 0.01
D703 MA165
R703 6.8K
L7001 220μH
C751 5P
C753 0.047
RX752
C754 16V100
R719 560
L703 15μH
X703
R711 270
C709 0.42
TP709
C719 50V1
R723 5600
L704 47μ
R722 18K
Q701 2SD636
R7007 470K
RX702
TP702
R7022 1K (¼W)
TP708
TP710
C718 56P
TP706
T704
EFCS5RMW3 VLF0812
TP705
IC701 BN5115
C708 0.01
C707 0.01
L707 0.68
R7008 150K
R707 150K
D7010 RD13EB
T751
IC751 AN5215
C757 500P
C760 50V1
C7003 0.01
C755 39P
C717 15P
T703
RX701
T701 EULHLB307
C728 10P
R754 15K
R756 1K
TP704
C710 0.01
Q704 2SK55D 2SK154
C727 8P
R708 39K
T752
C759 10V10
R755 20KB
T702
C714 22P
C712 3P
TP703
C720 0.01
R737 560
IF
AFC
BT
BU
U.AGC
C761 0.039
C756 12P
R716 560
R714 1K
R739 2200
D7004 MA165
R720 33K
R715 390
C716 0.01
R713 3900
T700
R735 22
R712 18K
C715 0.01
C713 120P
C711 3P
R717 1K
C736 50V1
C735 0.01
C706 16V33
C734 0.01
C705 50V0.68
C731 0.01
C701 16V22
C702 25V10
C732 0.01
TP701
R7014 10K
R7015 10K
Q7006 2SD636

P7002

1	30V
2	———
3	———
4	BT
5	AFC
6	12V
7	12V Ⓕ
8	GND
9	ANT BS
10	DEF

P7001

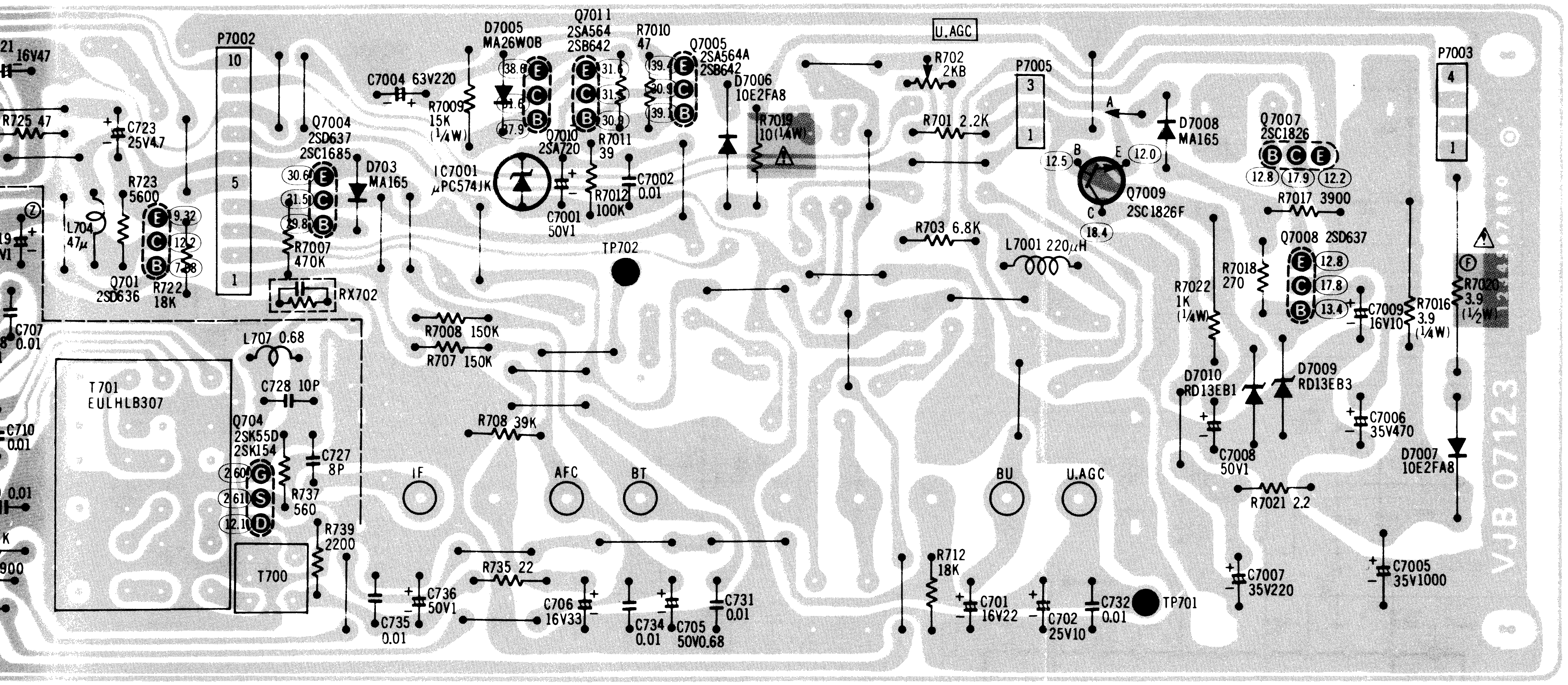
1	POWER OFF Ⓛ
2	VIDEO OUT
3	GND
4	AUDIO CUT
5	GND

P7003

1	AC 20V
2	GND
3	AC 36V
4	GND

-P7005

1	ANT BS
2	GND
3	12V Ⓕ


P7002
10
5
1
D7005
MA26W0B
Q7011
2SA564
2SB642
R7010
47
Q7005
2SA564A
2SB642
D7006
10E2FA8
R7019
10(1/4W)
U.AGC
R702
2KB
P7005
3
1
P7003
4
1
16V47
R725 47
C723
25V4.7
C7004 63V220
R7009
15K
(1/4W)
Q7004
2SD637
2SC1685
D703
MA165
Q7010
2SA720
R7011
39
C7002
0.01
R7012
100K
C7001
50V1
IC7001
μPC574JK
R701 2.2K
D7008
MA165
Q7007
2SC1826
R723
5600
L704
47μ
Q701
2SD636
R722
18K
R7007
470K
RX702
TP702
R703 6.8K
L7001 220μH
Q7009
2SC1826F
R7017 3900
Q7008 2SD637
R7018
270
R7022
1K
(1/4W)
C7009
16V10
R7016
3.9
(1/4W)
R7020
3.9
(1/2W)
C707
0.01
L707 0.68
C728 10P
T701
EULHLB307
R7008 150K
R707 150K
D7010
RD13EB1
D7009
RD13EB3
C7006
35V470
C710
0.01
Q704
2SK55D
2SK154
C727
8P
R737
560
R708 39K
C7008
50V1
D7007
10E2FA8
R7021 2.2
IF
AFC
BT
BU
U.AGC
R739
2200
T700
R735 22
R712
18K
C736
50V1
C735
0.01
C706
16V33
C734
0.01
C705
50V0.68
C731
0.01
C701
16V22
C702
25V10
C732
0.01
TP701
C7007
35V220
C7005
35V1000
VJB 07123

0V
6V

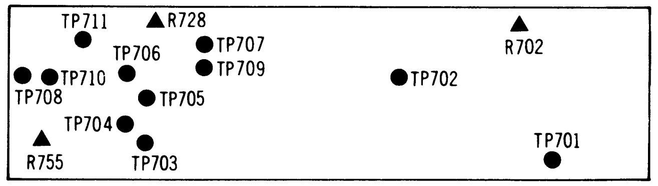
P7005

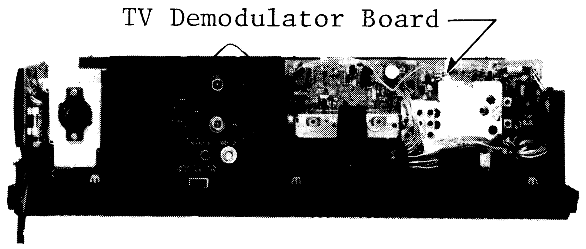
1	ANT BS
2	GND
3	12V Ⓕ

3 4 5 6

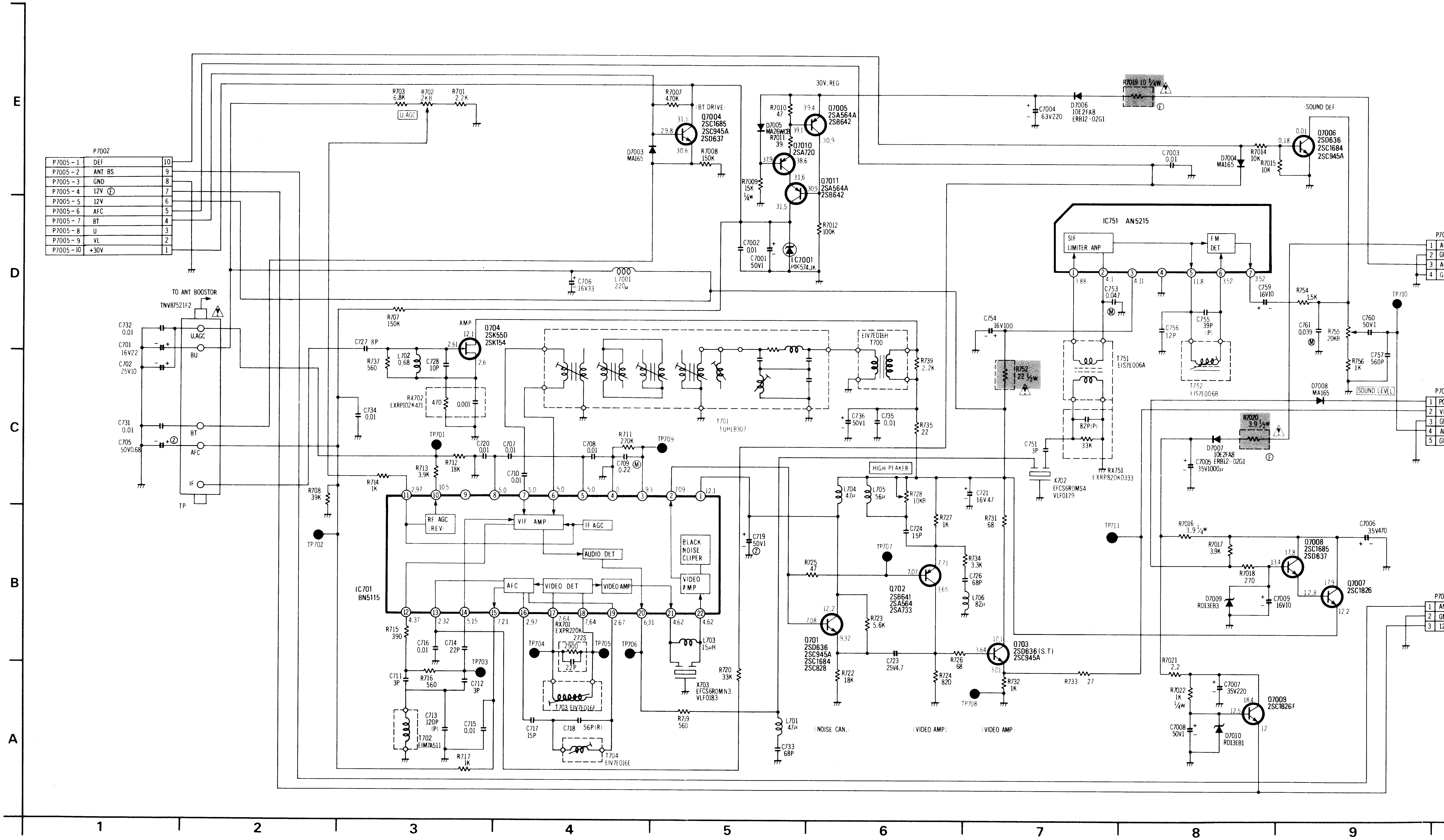
TV Demodulator C.B.A	
Q701	B-3
Q702	C-3
Q703	C-2
Q704	B-3
Q7004	C-4
Q7005	C-4
Q7006	B-1
Q7007	C-6
Q7008	B-6
Q7009	C-6
Q7010	C-4
Q7011	C-4
IC701	B-2
IC751	B-1
IC7001	C-4

Demodulator

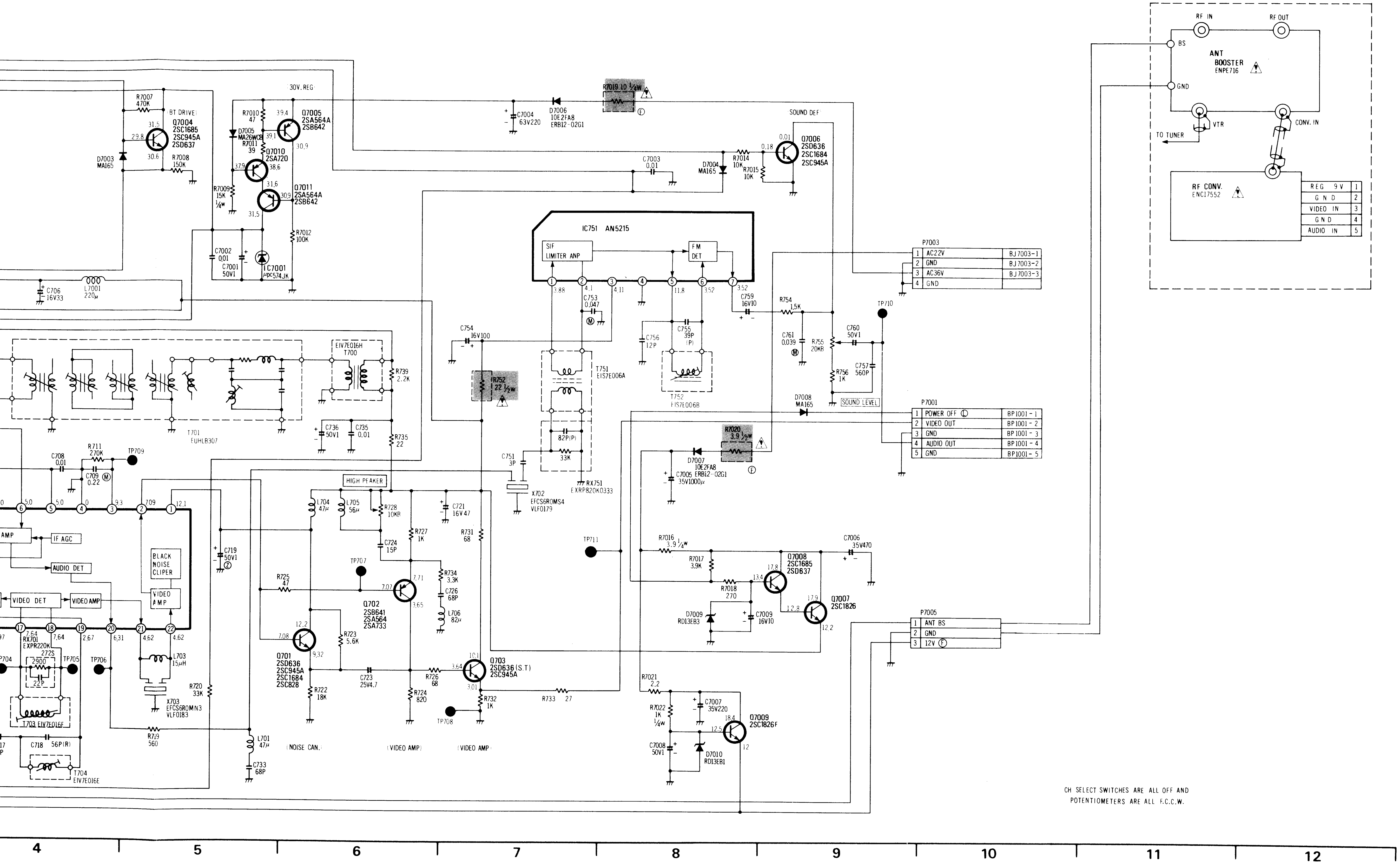

TP711
R728
TP706
TP707
TP709
TP708
TP710
TP705
TP702
R702
TP704
TP701
R755
TP703


TV Demodulator Board

TV DEMODULATOR SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
5
6
7
8
9
P7002
P7005-1 DEF 10
P7005-2 ANT BS 9
P7005-3 GND 8
P7005-4 12V Ⓕ 7
P7005-5 12V 6
P7005-6 AFC 5
P7005-7 BT 4
P7005-8 U 3
P7005-9 VL 2
P7005-10 +30V 1
TO ANT BOOSTOR
TNV87521F2
U.AGC
BU
BT
AFC
IF
TP
C732 0.01
C701 16V22
C702 25V10
C731 0.01
C705 50V0.68
R703 6.8K
R702 2KB
R701 2.2K
U.AGC
R7007 470K
BT DRIVE
Q7004 2SC1685 2SC945A 2SD637
D7003 MA165
R7008 150K
30V.REG
R7010 47
D7005 MA26WOB
R7011 39
Q7005 2SA564A 2SB642
Q7010 2SA720
R7009 15K 1/4W
Q7011 2SA564A 2SB642
R7012 100K
C7002 0.01
C7001 50V1
IC7001 HDC574JK
C706 16V33
L7001 220μ
R707 150K
C727 8P
R737 560
L702 0.68
C728 10P
AMP
Q704 2SK55D 2SK154
RX702 EXRP102K471
470
0.001
C734 0.01
T701 EUHLB307
EIV7E016H T700
R739 2.2K
C736 50V1
C735 0.01
R735 22
TP701
R713 3.9K
R712 18K
C720 0.01
C707 0.01
C710 0.01
C708 0.01
R711 270K
C709 0.22 Ⓜ
TP709
R714 1K
R708 39K
TP702
IC701 BN5115
RF AGC (REV)
VIF AMP
IF AGC
AUDIO DET
BLACK NOISE CLIPER
VIDEO AMP
AFC
VIDEO DET
VIDEO AMP
R715 390
C716 0.01
C714 22P
TP703
C711 3P
R716 560
C712 3P
C713 120P (P)
C715 0.01
T702 EIM7A511
R717 1K
TP704
RX701 EXPR220K
2900
272S
22P
TP705
TP706
T703 EIV7E016F
C717 15P
C718 56P(R)
T704 EIV7E016E
L703 15μH
X703 EFCS6R0MN3 VLF0183
R720 33K
R719 560
C719 50V1 Ⓩ
L701 47μ
C733 68P
HIGH PEAKER
L704 47μ
L705 56μ
R728 10KB
C721 16V47
C724 15P
R727 1K
R731 68
TP707
R725 47
R734 3.3K
C726 68P
L706 82μ
Q702 2SB641 2SB564 2SA733
R723 5.6K
Q701 2SD636 2SC945A 2SC1684 2SC828
R722 18K
C723 25V4.7
R726 68
R724 820
Q703 2SD636 (S.T) 2SC945A
R732 1K
R733 27
TP708
(NOISE CAN.)
(VIDEO AMP)
(VIDEO AMP)
C754 16V100
R752 22 1/2W
C751 3P
X702 EFCS6R0MS4 VLF0179
RX751 EXRP820K0333
82P(P)
33K
T751 EIS7E006A
C753 0.047 Ⓜ
C756 12P
C755 39P (P)
T752 EIS7E006B
IC751 AN5215
SIF LIMITER AMP
FM DET
C759 16V10
C7004 63V220
D7006 10E2FA8 ERB12-02G1
R7019 10 1/4W
C7003 0.01
D7004 MA165
R7014 10K
R7015 10K
SOUND DEF
Q7006 2SD636 2SC1684 2SC945A
R754 1.5K
C761 0.039 Ⓜ
R755 20KB
R756 1K
C760 50V1
C757 560P
SOUND LEVEL
TP710
P7003
1 AC22V
2 GND
3 AC36V
4 GND
D7008 MA165
P7001
1 POWER OFF Ⓛ
2 VIDEO OUT
3 GND
4 AUDIO OUT
5 GND
D7007 10E2FA8 ERB12-02G1
R7020 3.9 1/2W
C7005 35V1000μ
TP711
R7016 3.9 1/4W
R7017 3.9K
R7018 270
Q7008 2SC1685 2SD637
D7009 RD13EB3
C7009 16V10
Q7007 2SC1826
C7006 35V470
P7005
1 ANT BS
2 GND
3 12V Ⓕ
R7021 2.2
R7022 1K 1/4W
C7007 35V220
C7008 50V1
D7010 RD13EB1
Q7009 2SC1826F

M

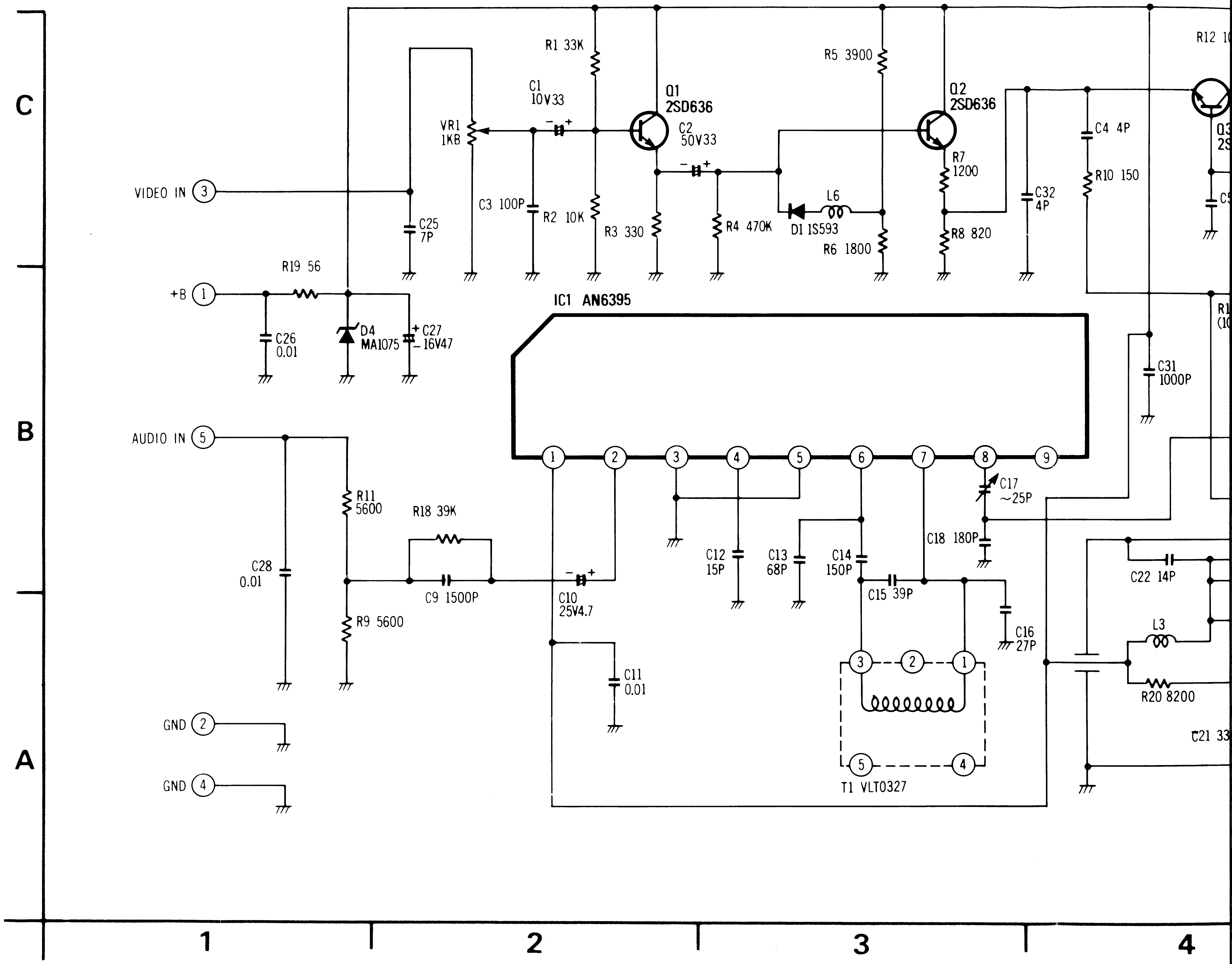

BT DRIVE
Q7004 2SC1685 2SC945A 2SD637
R7007 470K
R7008 150K
D7003 MA165
30V. REG
Q7005 2SA564A 2SB642
R7010 47
D7005 MA26WCB
R7011 39
Q7010 2SA720
R7009 15K 1/4W
Q7011 2SA564A 2SB642
R7012 100K
C7002 0.01
C7001 50V1
IC7001 μPC574JK
C706 16V33
L7001 220μ
C7004 63V220
D7006 10E2FA8 ERB12-02G1
R7019 10 1/4W
C7003 0.01
D7004 MA165
R7014 10K
R7015 10K
SOUND DEF
Q7006 2SD636 2SC1684 2SC945A
IC751 AN5215
SIF LIMITER AMP
FM DET
C753 0.047
C754 16V100
R752 22 1/2W
T751 EIS7E006A
C756 12P
C755 39P
T752 EIS7E006B
82P(P)
33K
RX751 EXRP820K0333
C751 3P
X702 EFCS6R0MS4 VLF0179
C759 16V10
R754 1.5K
C761 0.039
R755 20KB
C760 50V1
R756 1K
C757 560P
SOUND LEVEL
TP710
P7003
1 AC22V BJ7003-1
2 GND BJ7003-2
3 AC36V BJ7003-3
4 GND
D7008 MA165
P7001
1 POWER OFF BP1001-1
2 VIDEO OUT BP1001-2
3 GND BP1001-3
4 AUDIO OUT BP1001-4
5 GND BP1001-5
R7020 3.9 1/2W
D7007 10E2FA8 ERB12-02G1
C7005 35V1000μ
RF IN
RF OUT
BS
GND
ANT BOOSTER ENPE716
TO TUNER
VTR
CONV. IN
RF CONV. ENC17552
REG 9V 1
GND 2
VIDEO IN 3
GND 4
AUDIO IN 5
EIV7E016H T700
R739 2.2K
T701 EUHLB307
C736 50V1
C735 0.01
R735 22
R711 270K
C708 0.01
C709 0.22
TP709
HIGH PEAKER
L704 47μ
L705 56μ
R728 10KB
C721 16V47
R727 1K
R731 68
C724 15P
IF AGC
AUDIO DET
BLACK NOISE CLIPER
VIDEO AMP
VIDEO DET
C719 50V1
TP707
R725 47
R734 3.3K
C726 68P
L706 82μ
Q702 2SB641 2SA564 2SA733
R723 5.6K
Q701 2SD636 2SC945A 2SC1684 2SC828
C723 25V4.7
R726 68
Q703 2SD636(S.T) 2SC945A
R722 18K
R724 820
R732 1K
TP708
R733 27
RX701 EXPR220K
TP704
TP705
TP706
L703 15μH
X703 EFCS6R0MN3 VLF0183
R720 33K
T703 EIV7E016F
C718 56P(R)
T704 EIV7E016E
R719 560
L701 47μ
C733 68P
(NOISE CAN.)
(VIDEO AMP)
(VIDEO AMP)
TP711
R7016 3.9 1/4W
R7017 3.9K
Q7008 2SC1685 2SD637
C7006 35V470
R7018 270
D7009 RD13EB3
C7009 16V10
Q7007 2SC1826
P7005
1 ANT BS
2 GND
3 12V
R7021 2.2
R7022 1K 1/4W
C7007 35V220
C7008 50V1
D7010 RD13EB1
Q7009 2SC1826F
4
5
6
7
8
9
10
11
12

CH SELECT SWITCHES ARE ALL OFF AND
POTENTIOMETERS ARE ALL F.C.C.W.

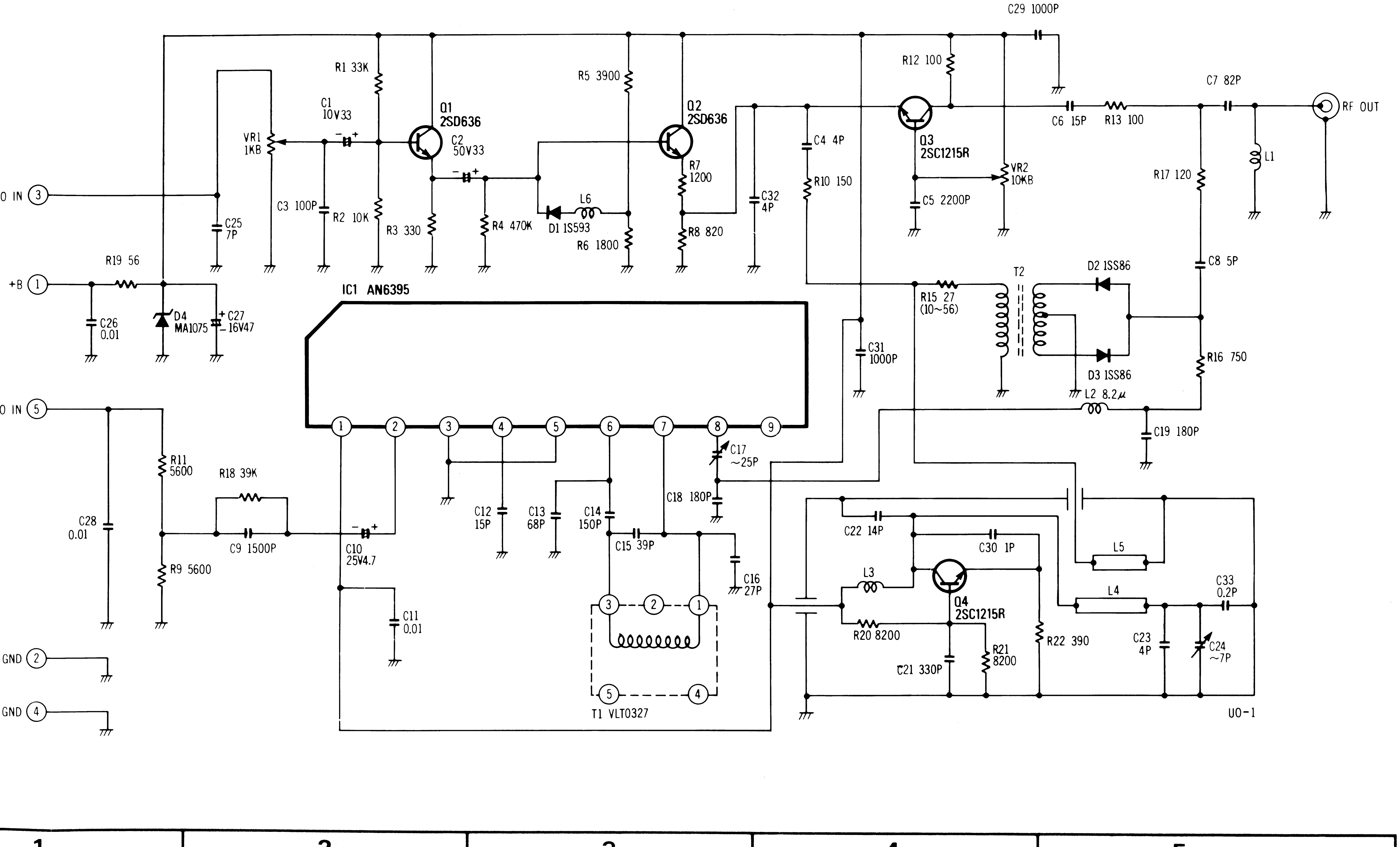
TV Demodulator	
Q701	B-6
Q702	B-6
Q703	B-7
Q704	C-3
Q7004	E-5
Q7005	E-6
Q7006	E-9
Q7007	B-9
Q7008	B-9
Q7009	A-8
Q7010	E-5
Q7011	D-5
IC701	B-4
IC751	D-8
IC7001	D-5

RF CONVERTER SCHEMATIC DIAGRAM

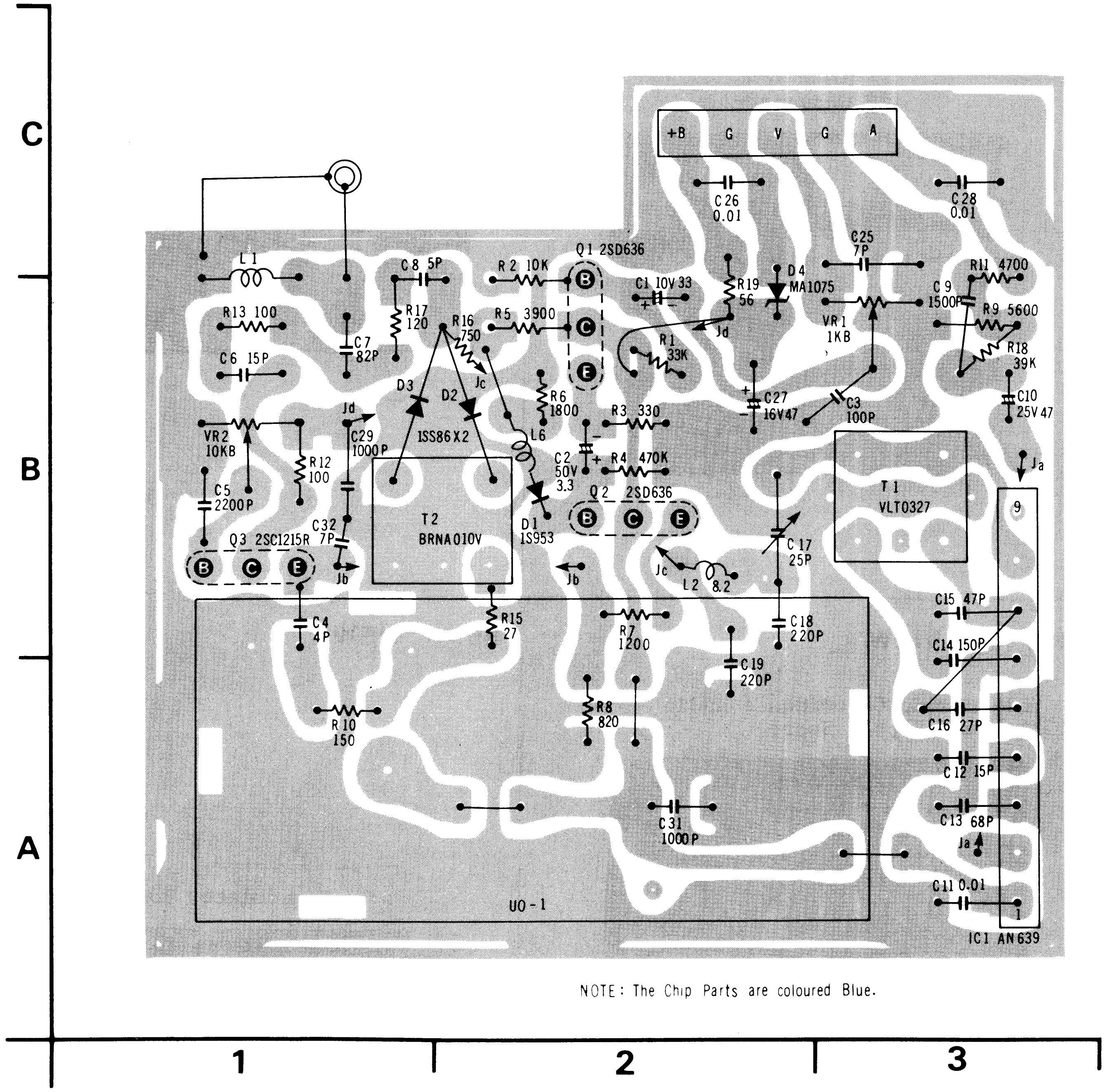
(*NV-333E, EG, EO:* **VSQ0223**)


C
B
A
1
2
3
4
VIDEO IN 3
+B 1
AUDIO IN 5
GND 2
GND 4
R19 56
C26 0.01
D4 MA1075
C27 16V47
C25 7P
VR1 1KB
C1 10V33
C3 100P
R2 10K
R1 33K
Q1 2SD636
C2 50V33
R3 330
R4 470K
D1 1S593
L6
R5 3900
R6 1800
Q2 2SD636
R7 1200
R8 820
C32 4P
C4 4P
R10 150
R12 1
Q3 2S
C5
R1 (1
IC1 AN6395
1
2
3
4
5
6
7
8
9
C31 1000P
C28 0.01
R11 5600
R9 5600
R18 39K
C9 1500P
C10 25V4.7
C11 0.01
C12 15P
C13 68P
C14 150P
C15 39P
C16 27P
C17 ~25P
C18 180P
T1 VLT0327
C22 14P
L3
R20 8200
C21 33

ERTER SCHEMATIC DIAGRAM
EG, EO: **VSQ0223)**


C29 1000P
R1 33K
R5 3900
R12 100
C7 82P
C1 10V33
Q1 2SD636
Q2 2SD636
Q3 2SC1215R
C6 15P
R13 100
RF OUT
L1
VR1 1KB
C2 50V33
C4 4P
R7 1200
R10 150
VR2 10KB
R17 120
0 IN 3
C25 7P
C3 100P
R2 10K
R3 330
R4 470K
L6
D1 1S593
R6 1800
R8 820
C32 4P
C5 2200P
R19 56
+B 1
D2 1SS86
C8 5P
IC1 AN6395
T2
R15 27 (10~56)
C26 0.01
D4 MA1075
C27 16V47
C31 1000P
R16 750
D3 1SS86
L2 8.2μ
C19 180P
0 IN 5
R11 5600
R18 39K
C17 ~25P
C18 180P
C28 0.01
C9 1500P
C10 25V4.7
C12 15P
C13 68P
C14 150P
C15 39P
C16 27P
C22 14P
C30 1P
L5
L3
L4
C33 0.2P
R9 5600
Q4 2SC1215R
R20 8200
R21 8200
R22 390
C23 4P
C24 ~7P
C11 0.01
C21 330P
GND 2
GND 4
T1 VLT0327
UO-1
1
2
3
4
5

RF CONVERTER BOARD (VSQ0223)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+B
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V
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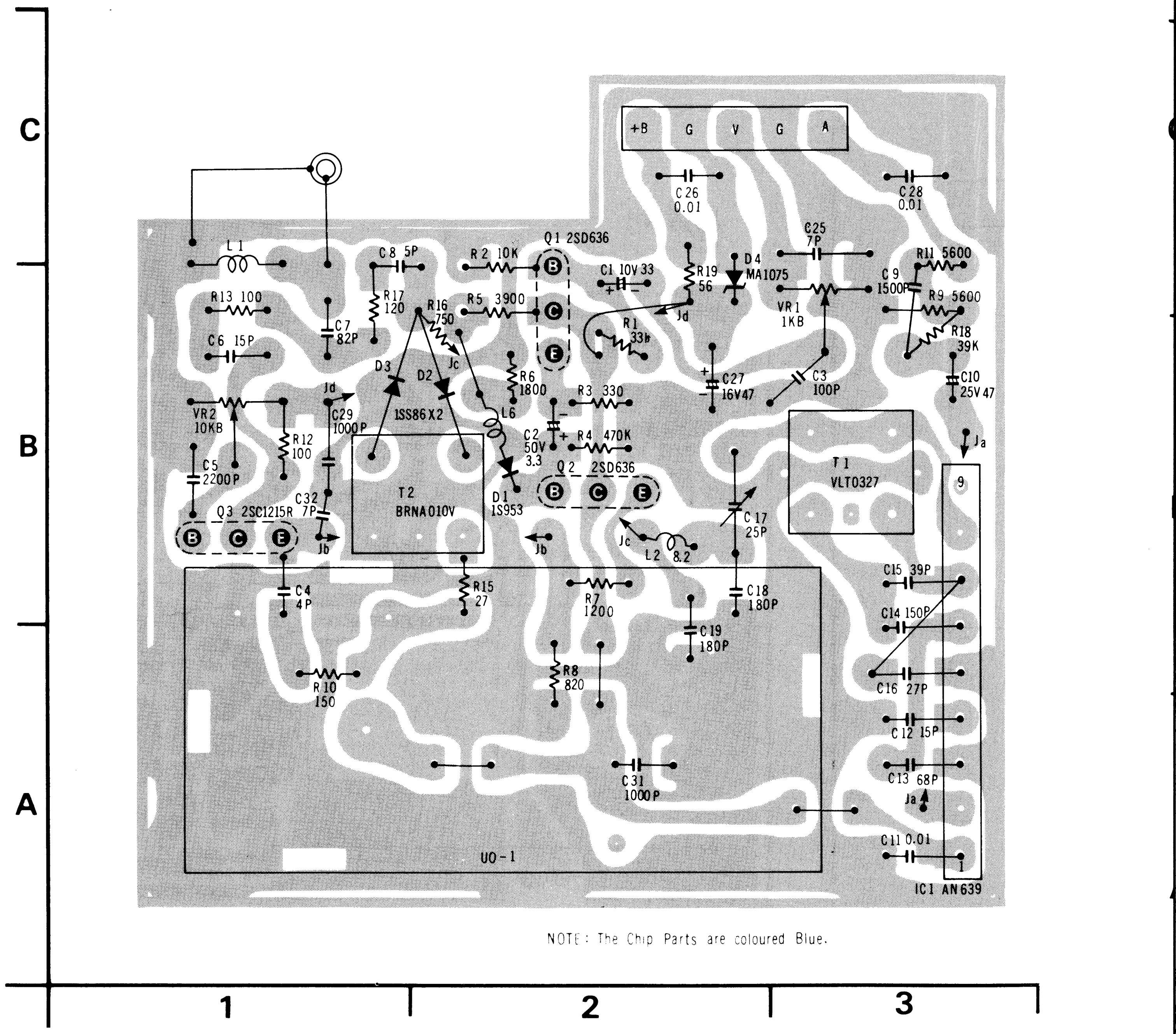
L1
R13 100
C6 15P
C7 82P
C8 5P
R17 120
R16 750
R2 10K
R5 3900
Q1 2SD636
C1 10V 33
R19 56
D4 MA1075
C26 0.01
C25 7P
VR1 1KB
C9 1500P
R11 4700
R9 5600
R18 39K
C28 0.01
C10 25V 47
R1 33K
Jd
Jc
D3
D2
1SS86 X2
R6 1800
R3 330
R4 470K
C2 50V 3.3
L6
C27 16V47
C3 100P
VR2 10KB
R12 100
C29 1000P
C5 2200P
C32 7P
Q3 2SC1215R
T2 BRNA010V
D1 1S953
Q2 2SD636
T1 VLT0327
C17 25P
L2 8.2
Jb
Ja
C4 4P
R15 27
R7 1200
C18 220P
C19 220P
R8 820
R10 150
C15 47P
C14 150P
C16 27P
C12 15P
C13 68P
C31 1000P
C11 0.01
UO-1
IC1 AN639
9
1

NOTE: The Chip Parts are coloured Blue.

RF CONVERTER BOARD ENC17751)


C
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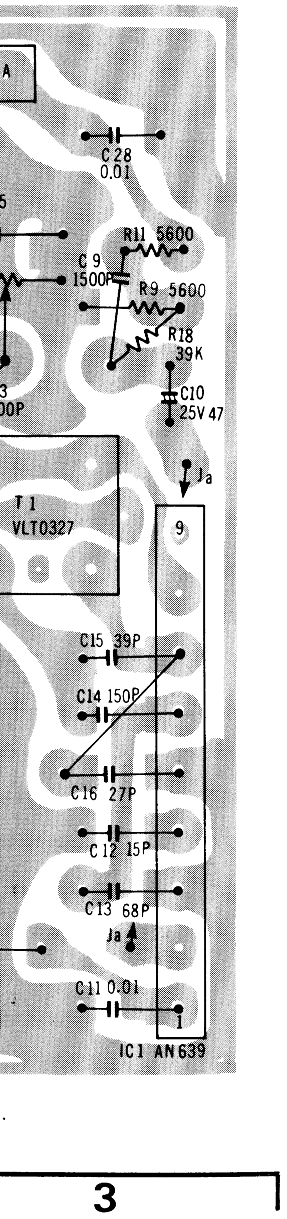
2
3
+B
G
V
G
A
L1
R13 100
C6 15P
C7 82P
C8 5P
R17 120
R16 750
R2 10K
R5 3900
Q1 2SD636
C1 10V 33
R19 56
D4 MA1075
C26 0.01
C25 7P
VR1 1KB
C9 1500P
R11 5600
R9 5600
R18 39K
C28 0.01
C10 25V 47
R1 33k
Jd
Jc
D3
D2
1SS86 X2
R6 1800
R3 330
R4 470K
C2 50V 3.3
L6
C27 16V47
C3 100P
VR2 10KB
R12 100
C29 1000P
C5 2200P
C32 7P
Q3 2SC1215R
T2 BRNA010V
D1 1S953
Q2 2SD636
T1 VLT0327
C17 25P
L2 8.2
Jb
Ja
C4 4P
R15 27
R7 1200
C18 180P
C19 180P
R8 820
R10 150
C15 39P
C14 150P
C16 27P
C12 15P
C13 68P
C31 1000P
C11 0.01
UO-1
IC1 AN639
9
1

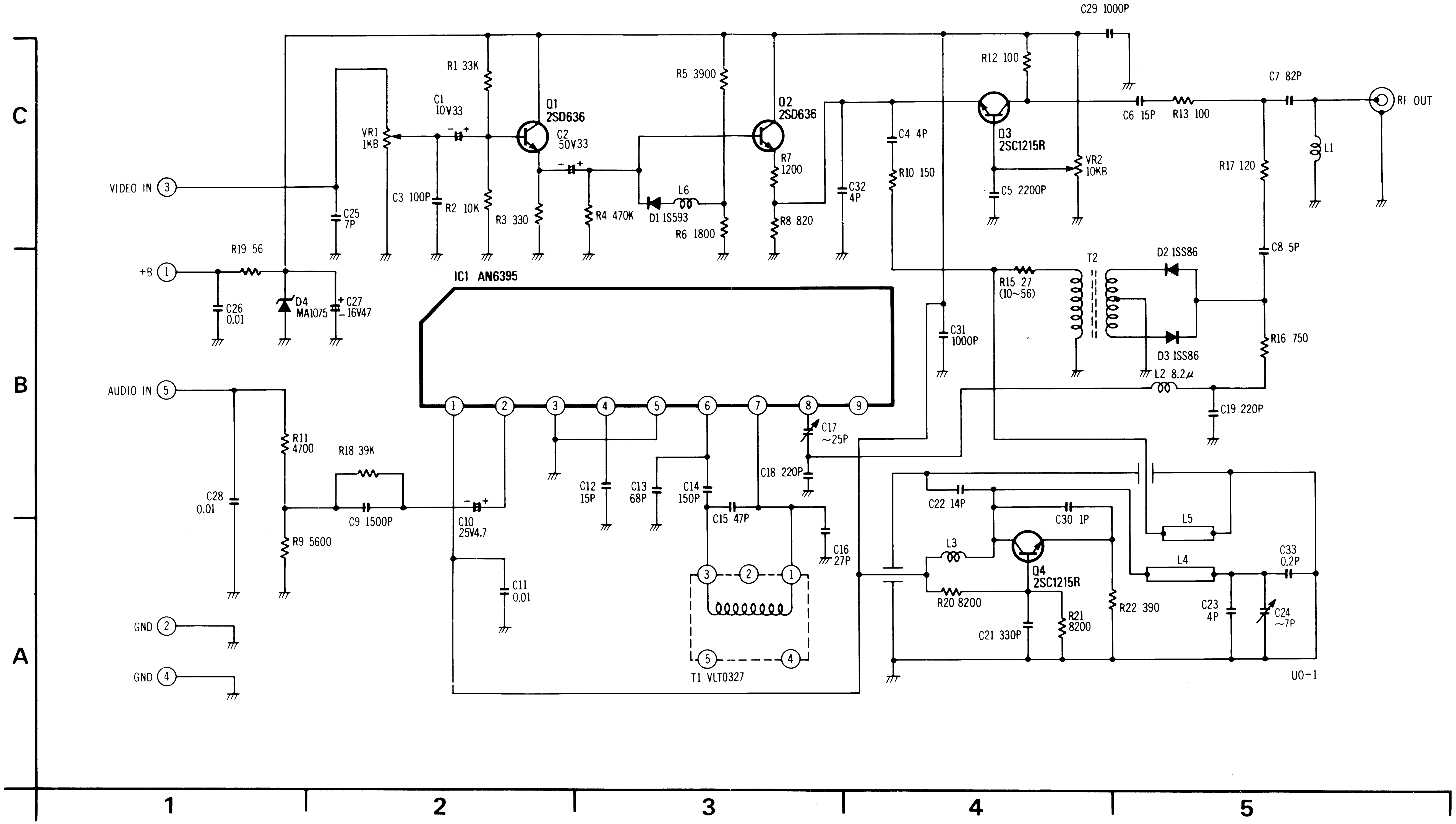
NOTE: The Chip Parts are coloured Blue.

ENC17751)



C 28 0.01
R11 5600
C 9 1500P
R9 5600
R18 39K
C10 25V 47
T 1 VLT0327
Ja
9
C15 39P
C14 150P
C16 27P
C 12 15P
C13 68P
Ja
C11 0.01
1
IC1 AN639
3

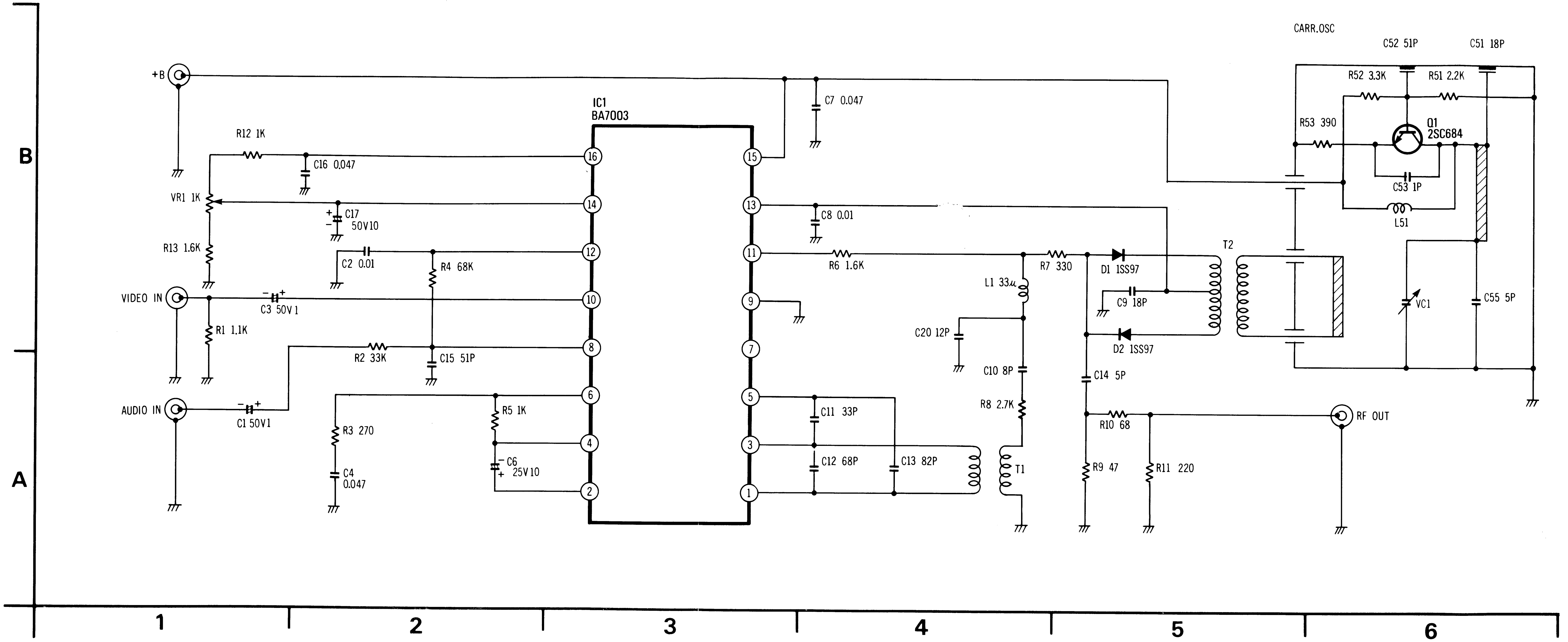
RF CONVERTER SCHEMATIC DIAGRAM (:O: ENC17551)



C
B
A
1
2
3
4
5
VIDEO IN ③
+B ①
AUDIO IN ⑤
GND ②
GND ④
VR1 1KB
C25 7P
R19 56
C26 0.01
D4 MA1075
C27 16V47
C1 10V33
C3 100P
R1 33K
R2 10K
R3 330
Q1 2SD636
C2 50V33
R4 470K
D1 1S593
L6
R5 3900
R6 1800
Q2 2SD636
R7 1200
R8 820
C32 4P
C4 4P
R10 150
C29 1000P
R12 100
Q3 2SC1215R
C5 2200P
VR2 10KB
C6 15P
R13 100
C7 82P
RF OUT
L1
R17 120
C8 5P
R16 750
T2
D2 1SS86
D3 1SS86
R15 27 (10~56)
L2 8.2μ
C19 220P
C31 1000P
IC1 AN6395
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
C28 0.01
R11 4700
R18 39K
C9 1500P
R9 5600
C10 25V4.7
C11 0.01
C12 15P
C13 68P
C14 150P
C15 47P
C16 27P
C17 ~25P
C18 220P
T1 VLT0327
C22 14P
C30 1P
L3
R20 8200
Q4 2SC1215R
C21 330P
R21 8200
R22 390
L5
L4
C23 4P
C24 ~7P
C33 0.2P
UO-1

RF CONVERTER SCHEMATIC DIAGRAM

RF


CARR.OSC
C52 51P
C51 18P
R52 3.3K
R51 2.2K
+B
IC1
BA7003
R53 390
Q1
2SC684
R12 1K
C7 0.047
C16 0.047
C53 1P
VR1 1K
C17
50V10
C8 0.01
L51
T2
R13 1.6K
C2 0.01
R4 68K
R6 1.6K
R7 330
D1 1SS97
L1 33µ
C9 18P
VC1
C55 5P
VIDEO IN
C3 50V1
R1 1.1K
C20 12P
D2 1SS97
R2 33K
C15 51P
C10 8P
C14 5P
AUDIO IN
C1 50V1
R5 1K
C11 33P
R8 2.7K
R10 68
RF OUT
R3 270
C6
25V10
C12 68P
C13 82P
T1
R9 47
R11 220
C4
0.047
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A
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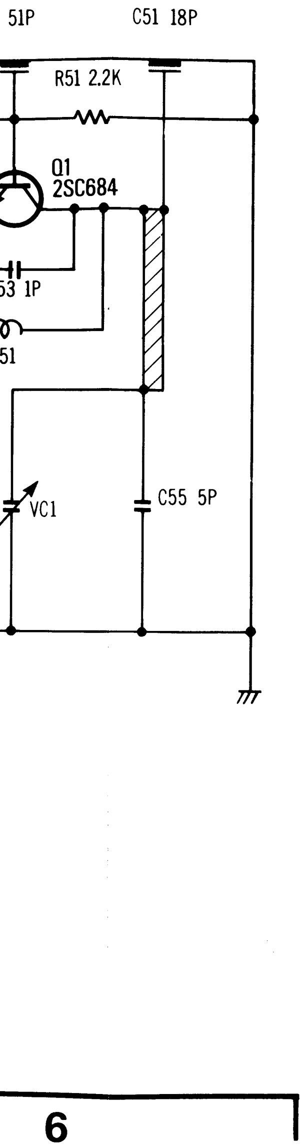
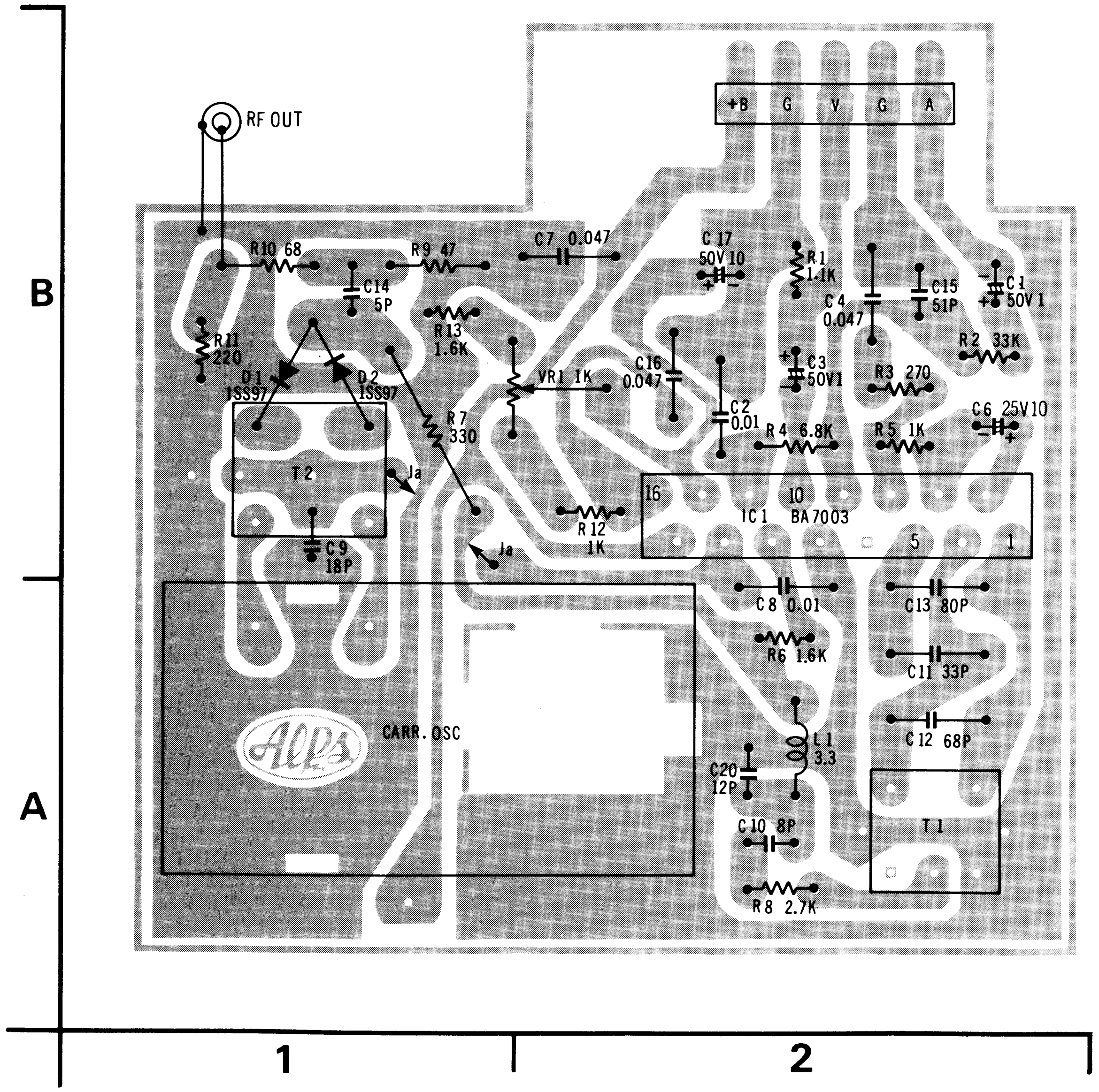
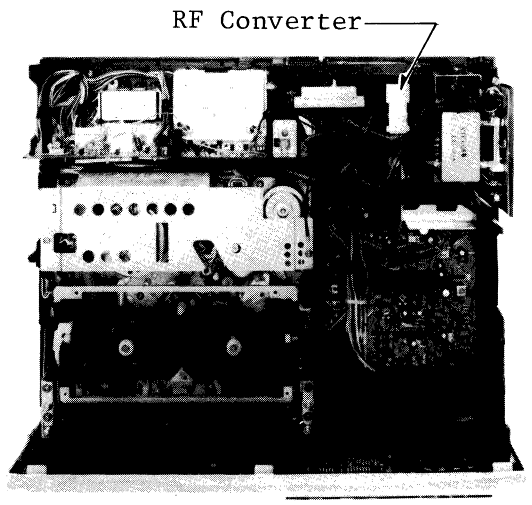

51P
C51 18P
R51 2.2K
Q1
2SC684
53 1P
51
VC1
C55 5P
6

RF CONVERTER BOARD

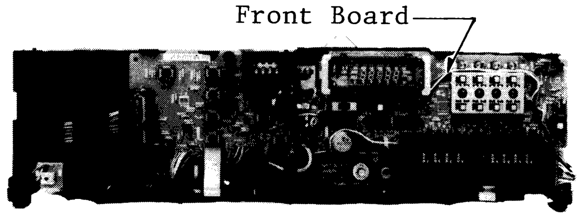

+B
G
V
G
A
RF OUT
R10 68
R9 47
C7 0.047
C17 50V10
R1 1.1K
C4 0.047
C15 51P
C1 50V1
C14 5P
R13 1.6K
R11 220
D1 1SS97
D2 1SS97
VR1 1K
C16 0.047
C3 50V1
C2 0.01
R3 270
R2 33K
C6 25V10
R7 330
R4 6.8K
R5 1K
T2
Ja
16
10
IC1 BA7003
5
1
R12 1K
C9 18P
Ja
C8 0.01
C13 80P
R6 1.6K
C11 33P
Alps
CARR. OSC
L1 3.3
C12 68P
C20 12P
C10 8P
T1
R8 2.7K
B
A
1
2

CIRCUIT BOARD LAYOUT

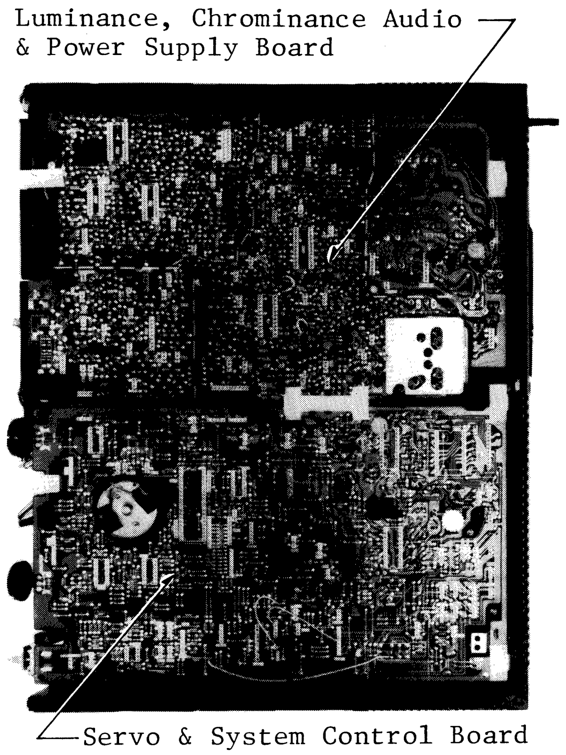
TOP VIEW


RF Converter

FRONT VIEW

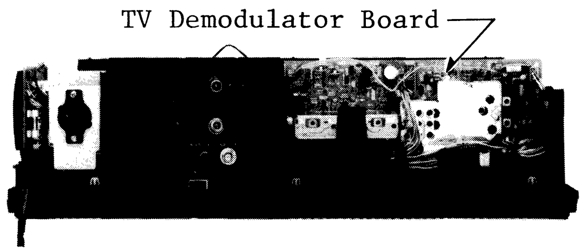

Front Board

BOTTOM VIEW


Luminance, Chrominance Audio & Power Supply Board

Servo & System Control Board

REAR VIEW


TV Demodulator Board

ORDER NO VRD-8204-08

Service Manual

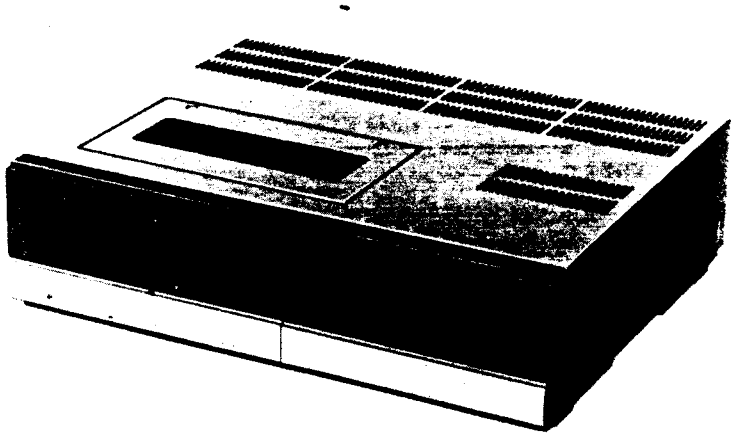
Video Cassette Recorder

Panasonic VHS

NV-333 -E -EG -B -EO

Vol. 4

Exploded Views
Replacement Parts List



SPECIFICATIONS

Power Source: 220V AC 50/60Hz (NV-333-E, EG, EO)
240V AC 50/60Hz (NV-333B)
Power Consumption: Approx. 36 watts (NV-333-E, EG, EO)
Approx. 39 watts (NV-333-B)
Television System: CCIR: 625 lines, 50 fields
PAL colour signal (NV-333-E/-B/-EO)
CCIR: 625 lines, 50 fields
PAL/DDR SECAM colour signal
(NV-333-EG,)
Video Recording
System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Colour signal: converted subscarrier
phase shift recording
Audio Track: 1 track
Tape Format: Tape width 12.7mm high density tape
Tape Speed: 23.39mm/s
Record/Playback Time: 240 min. with NV-E240
FF/REW Time: Less than 6.5 min. with NV-E240
Heads: Video: 2 rotary heads
Audio/Control: 1 stationary head
Erase: 1 full track erase
Input Level: Video: VIDEO IN connector (BNC)
1.0Vp-p, 75Ω terminate
Audio: LINE IN jack
More than −20dB, more than 50kΩ

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω terminate
Audio: LINE OUT jack
−6dB, less than 1kΩ
RF Modulated: UHF channel 36 ± 4CH
75Ω terminate
Weight: 8.4kg
Dimensions: 430(W) × 125(H) × 358(D)mm
Accessory Supplied: 1 pc. DIN-RF Cable VJA0176
1 pc. Video Cassette Tape
NV-E30 (NV-333-E/EG/EO)
1 pc. Video Cassette Tape
NV-E60 (NV-333-B)

Optional Accessories: Video cassette tape:
NV-E240 Approx. 344m, 240 min.
NV-E180 Approx. 258m, 180 min.
NV-E120 Approx. 174m, 120 min.
NV-E60 Approx. 88m, 60 min.
Video Camera, WV-2600E,
WV-3000E, WV-3200E
Remote Control Unit, NV-A33E

Weight and dimensions shown are apparoximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

CONTENTS

SPECIFICATIONS .... Cover

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  2. Moving Mechanism Section 4- 4

  3. Chassis Parts Section 4- 5

  4. Chassis Frame Section 4- 6

  5. Cassing Parts Section 4- 7

  6. Packing Parts Section 4- 8

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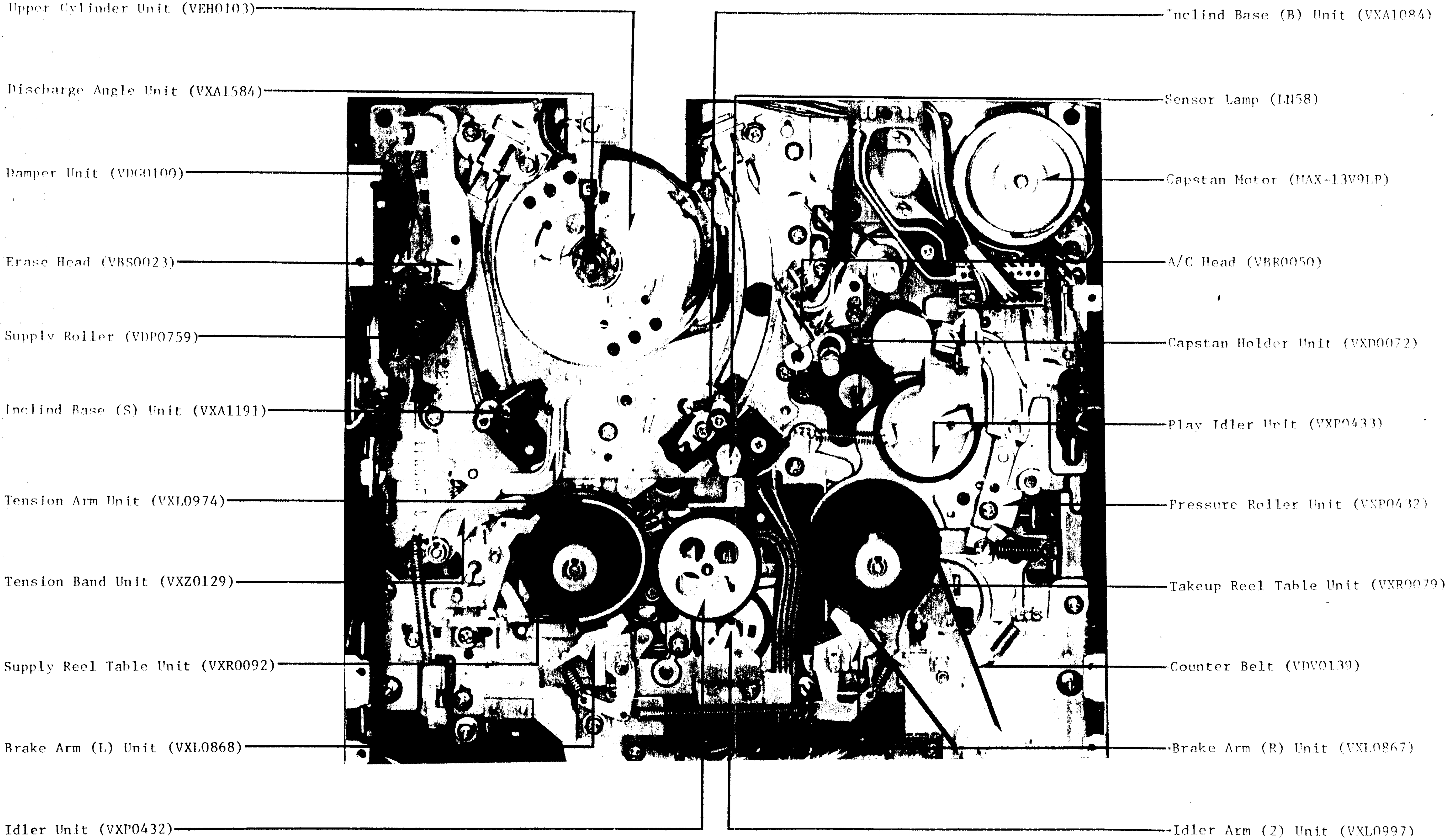
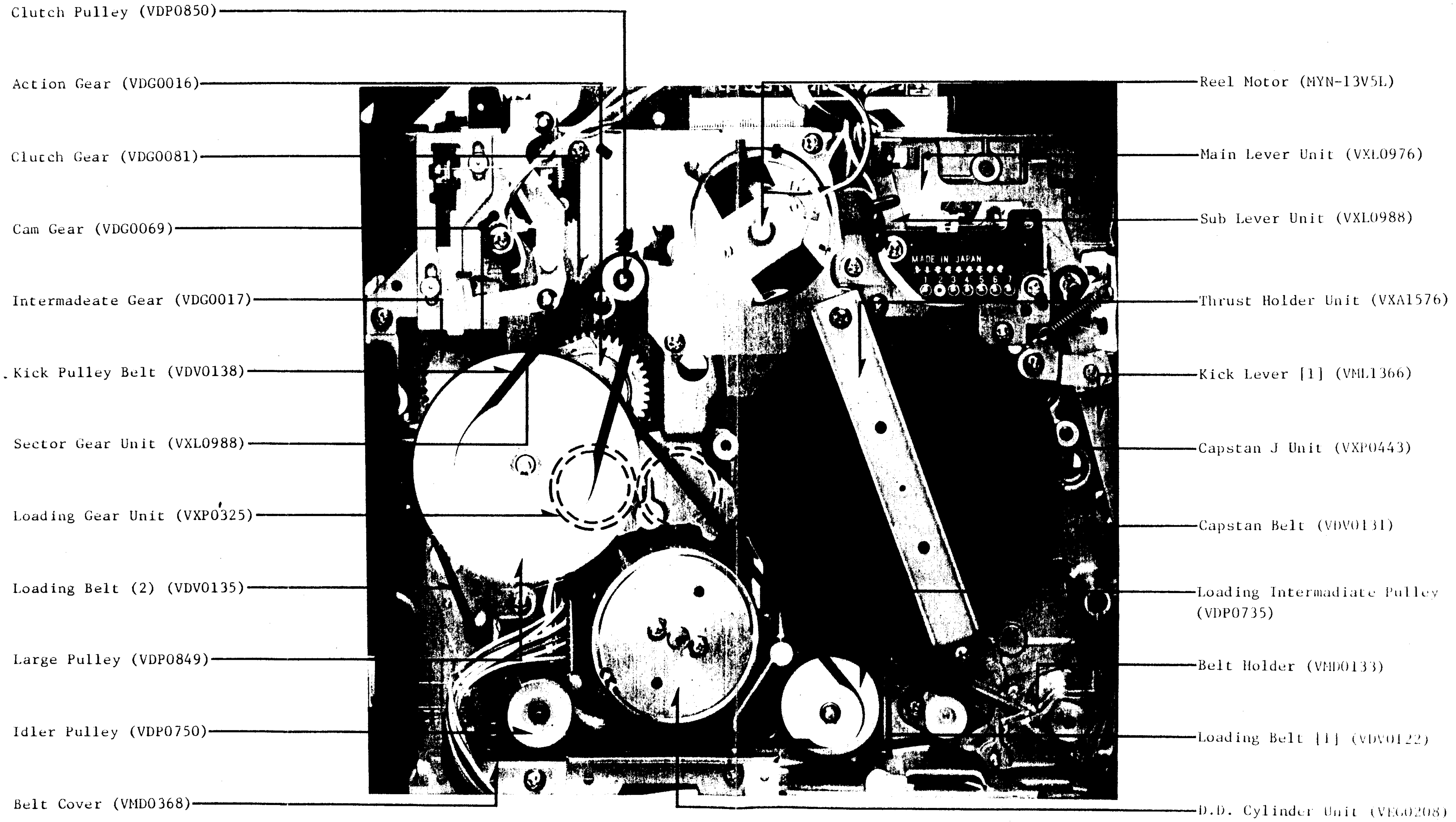
ELECTRICAL REPLACEMENT PARTS LIST 4-12

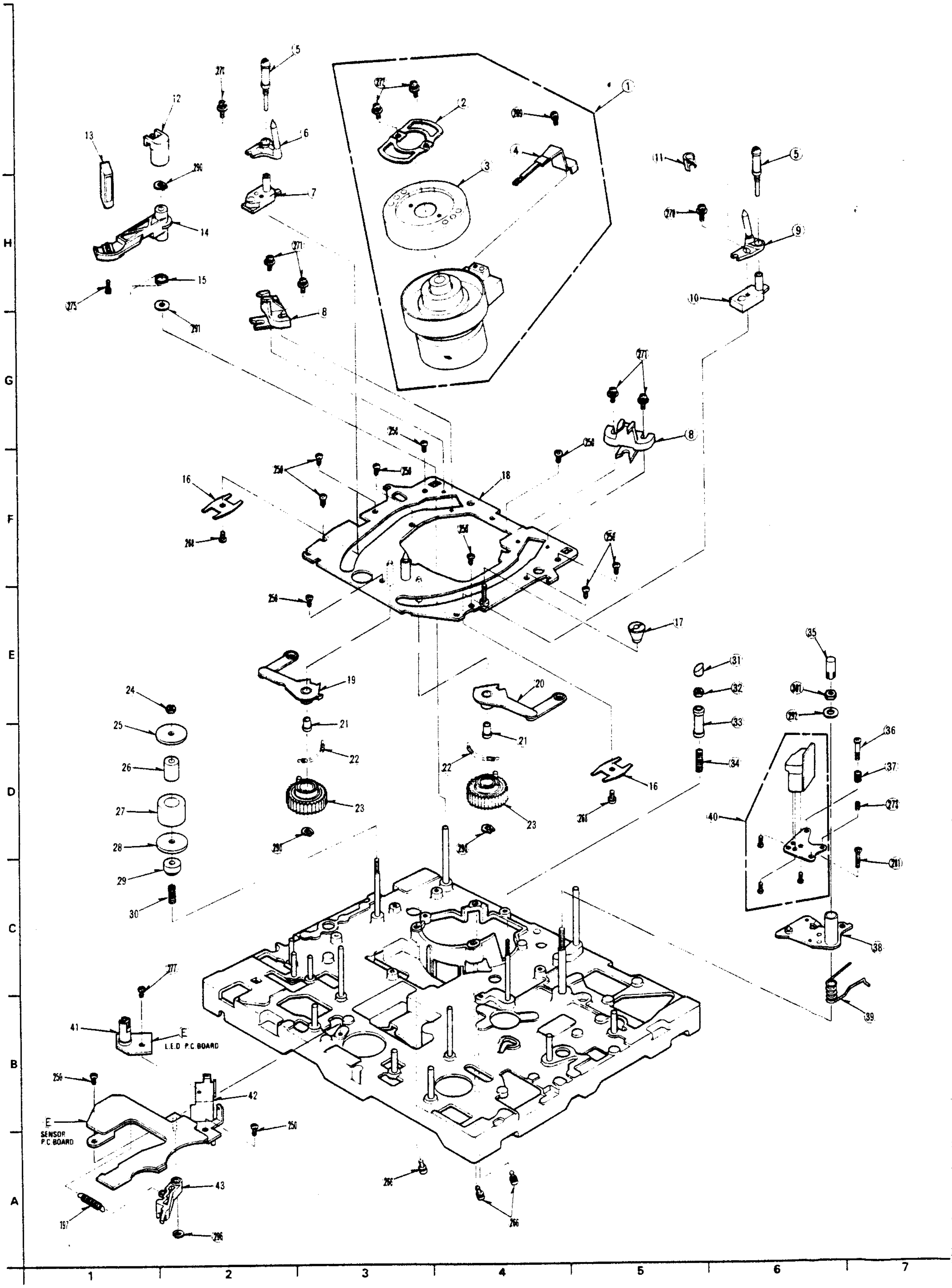
INNER PARTS LOCATION
TOP VIEW


Upper Cylinder Unit (VEH0103)
Discharge Angle Unit (VXA1584)
Damper Unit (VDG0100)
Erase Head (VBS0023)
Supply Roller (VDP0759)
Inclind Base (S) Unit (VXA1191)
Tension Arm Unit (VXL0974)
Tension Band Unit (VXZ0129)
Supply Reel Table Unit (VXR0092)
Brake Arm (L) Unit (VXL0868)
Idler Unit (VXP0432)
Inclind Base (B) Unit (VXA1084)
Sensor Lamp (LN58)
Capstan Motor (MAX-13V9LP)
A/C Head (VBR0050)
Capstan Holder Unit (VXD0072)
Play Idler Unit (VXP0433)
Pressure Roller Unit (VXP0432)
Takeup Reel Table Unit (VXR0079)
Counter Belt (VDV0139)
Brake Arm (R) Unit (VXL0867)
Idler Arm (2) Unit (VXL0997)

BOTTOM VIEW


Clutch Pulley (VDP0850)
Action Gear (VDG0016)
Clutch Gear (VDG0081)
Cam Gear (VDG0069)
Intermadeate Gear (VDG0017)
Kick Pulley Belt (VDV0138)
Sector Gear Unit (VXL0988)
Loading Gear Unit (VXP0325)
Loading Belt (2) (VDV0135)
Large Pulley (VDP0849)
Idler Pulley (VDP0750)
Belt Cover (VMD0368)
Reel Motor (MYN-13V5L)
Main Lever Unit (VXL0976)
Sub Lever Unit (VXL0988)
Thrust Holder Unit (VXA1576)
Kick Lever [1] (VML1366)
Capstan J Unit (VXP0443)
Capstan Belt (VDV0131)
Loading Intermadiate Pulley (VDP0735)
Belt Holder (VMD0133)
Loading Belt [1] (VDV0122)
D.D. Cylinder Unit (VEG0208)
MADE IN JAPAN
1 2 3 4 5 6 7

EXPLODED VIEW ❶ *Transport Section*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SENSOR P.C BOARD
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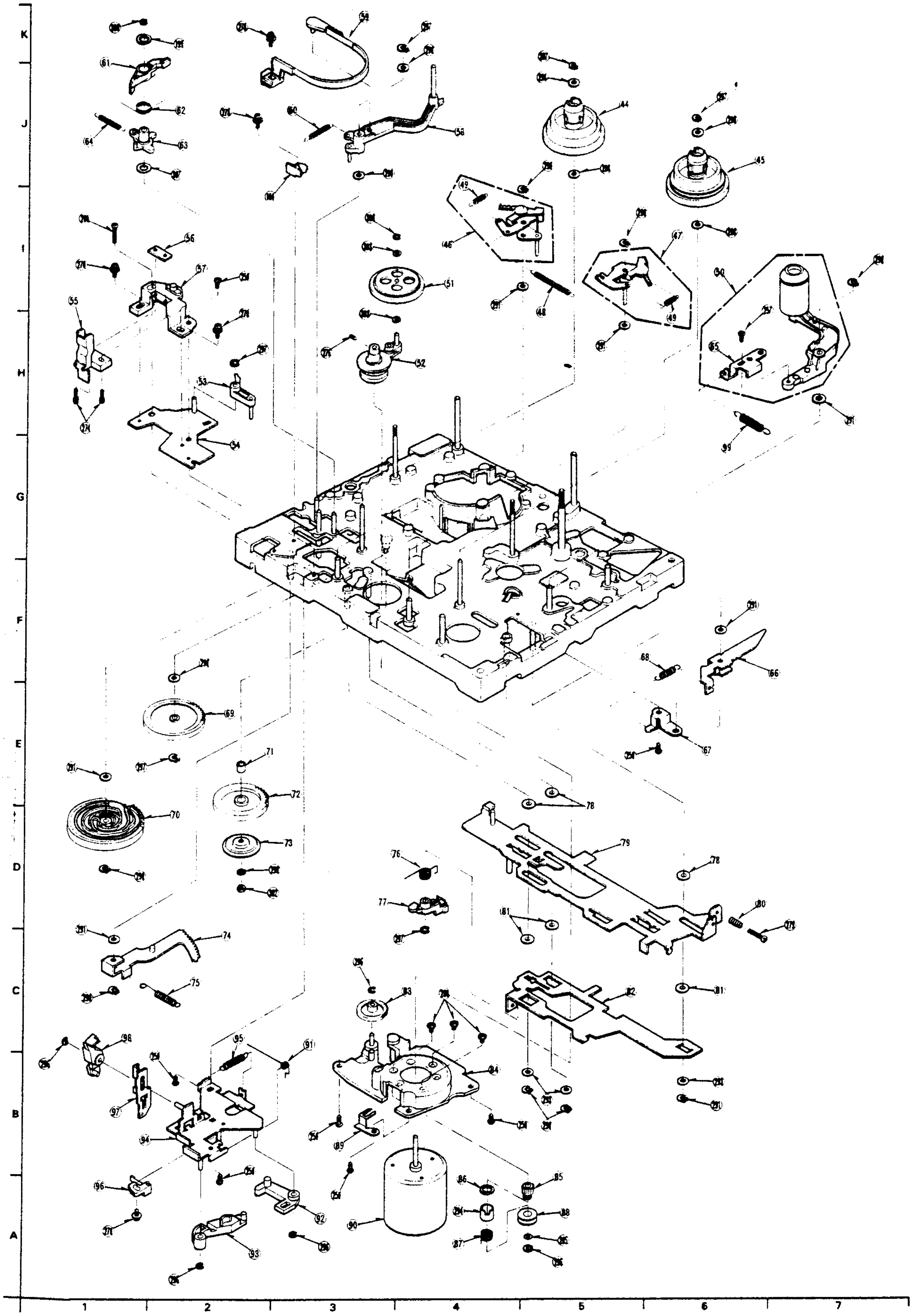
❷ *Moving Mechanism Section*



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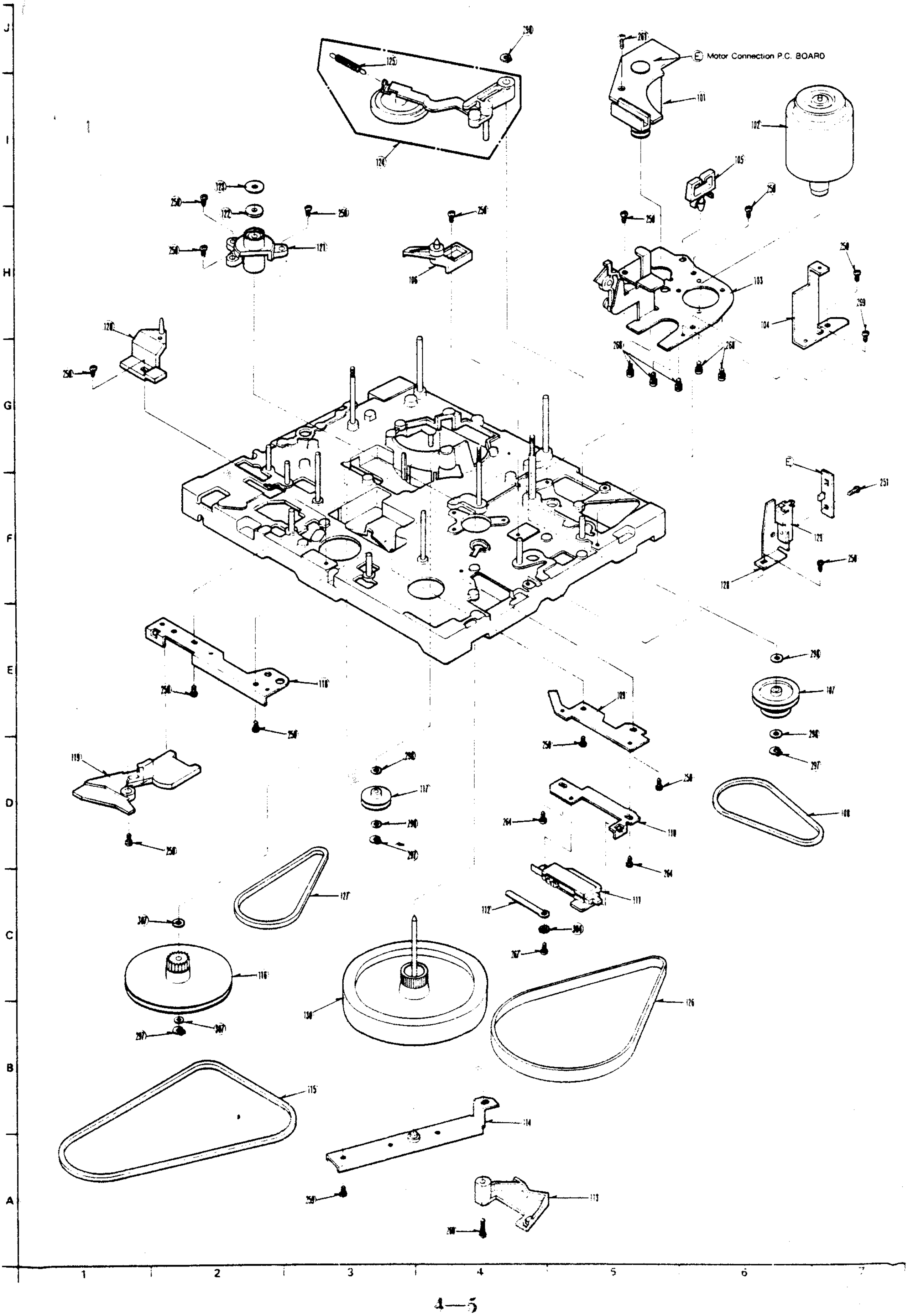
❸ Chassis Parts Section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124
261
E Motor Connection P.C. BOARD
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102
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264
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264
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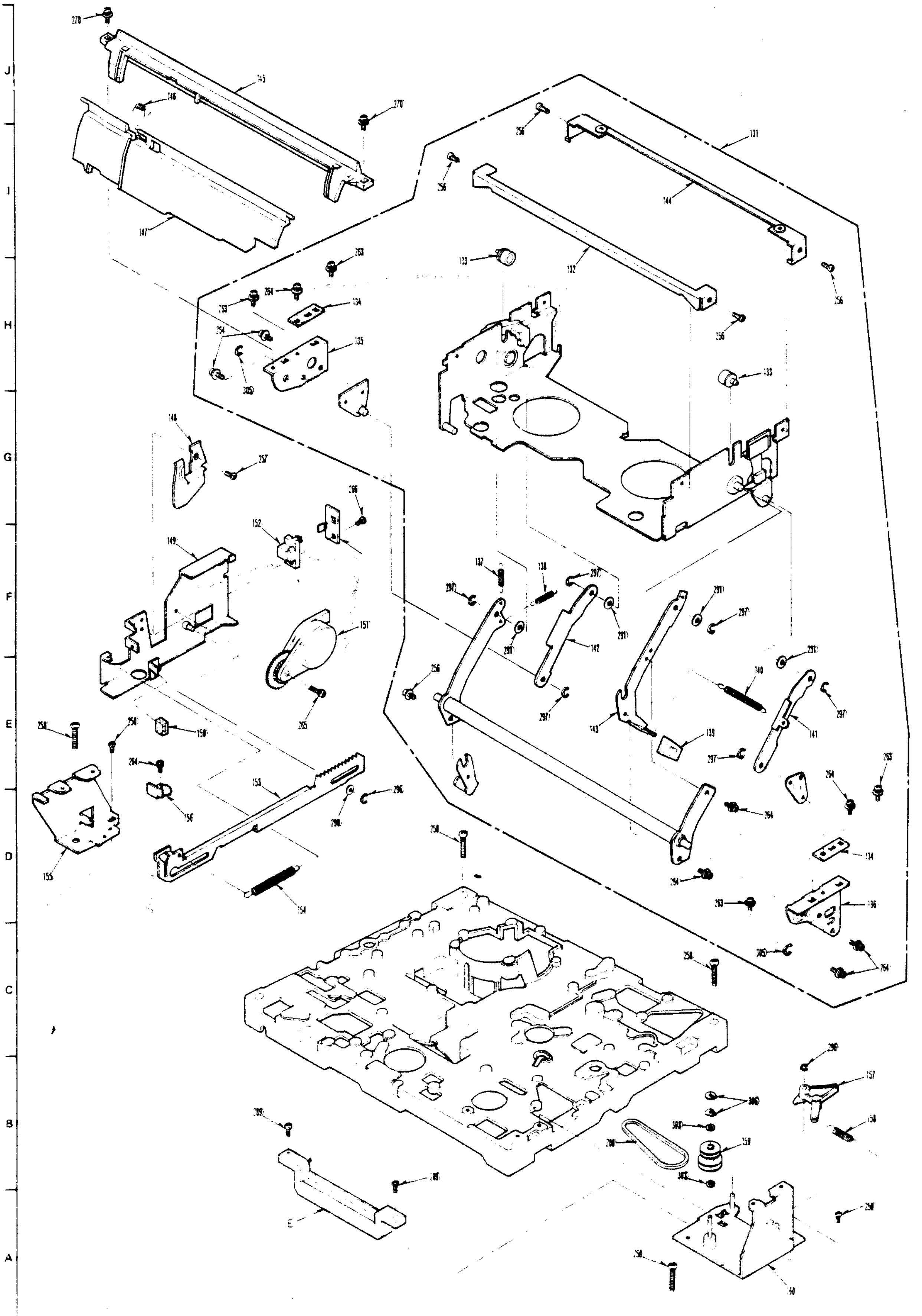
288

❹ *Chassis Frame Section*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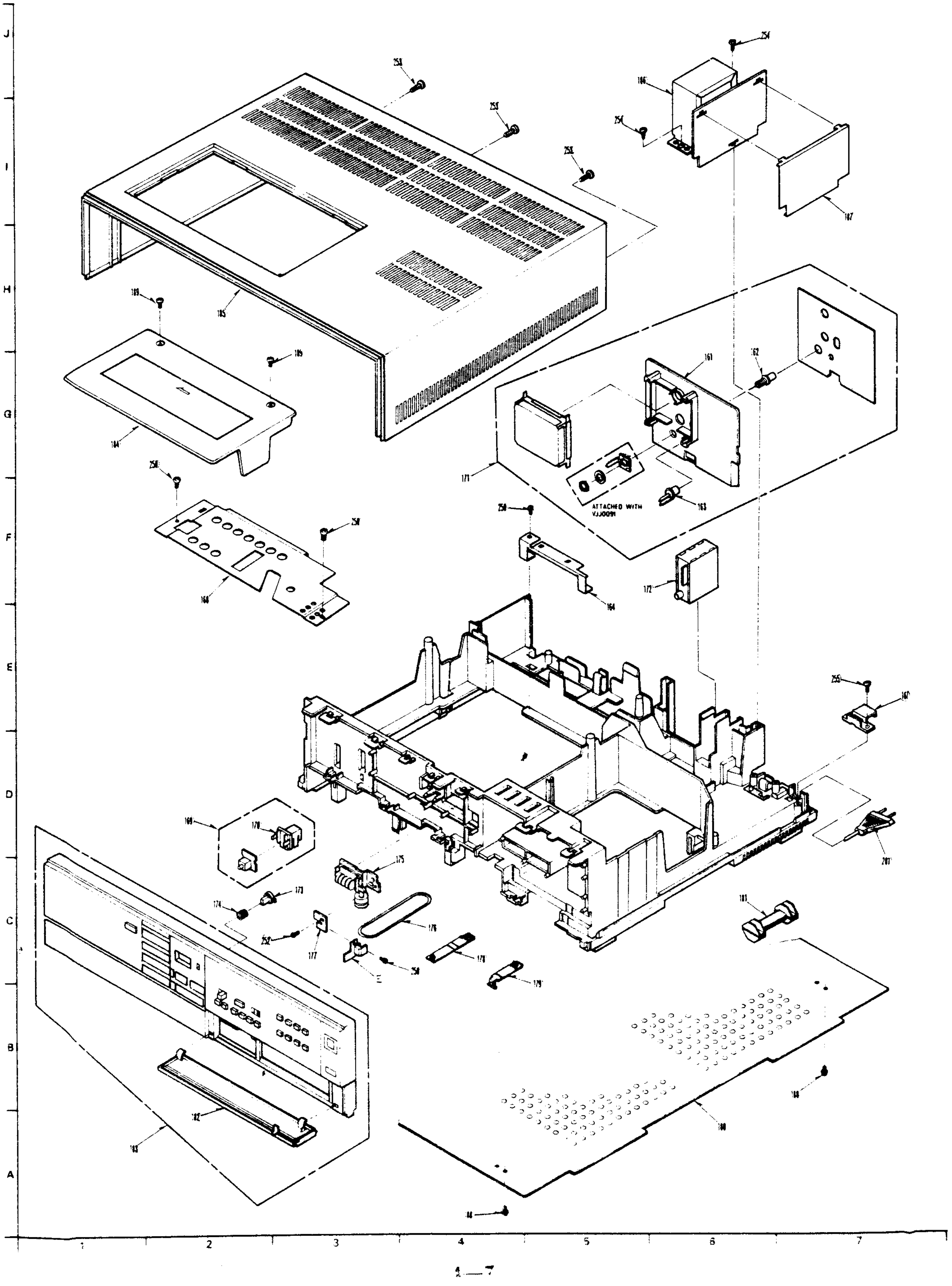
160
E

❺ *Casing Parts Section*


J
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171
ATTACHED WITH VJJ0091
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172
255
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252
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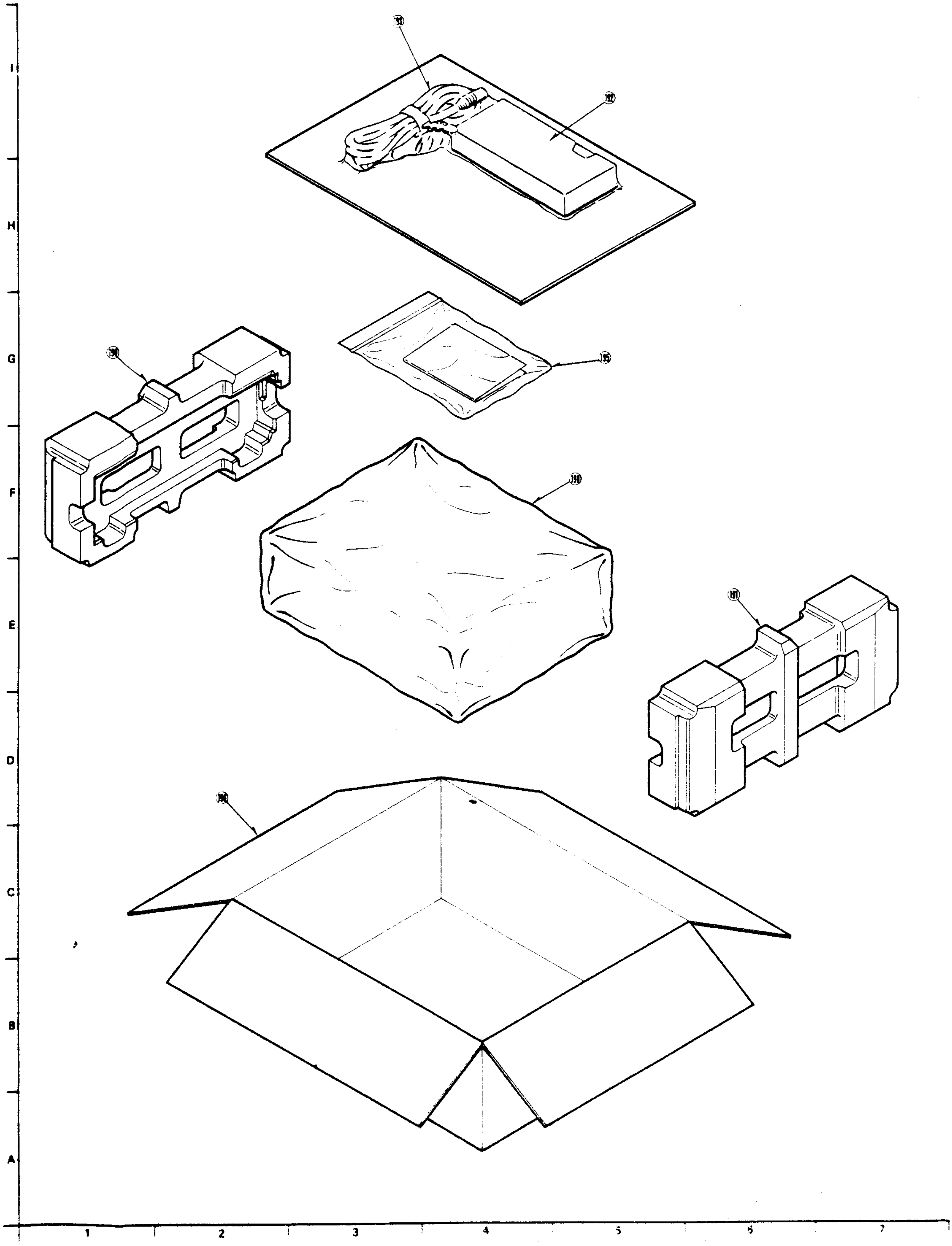
❻ Packing Parts Section


193
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MECHANICAL REPLACEMENT PARTS LIST

Model No. NV-333E/EG/B/EO

Notes:
1. • Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified by △ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
1(1)		VEG0208	DD Cylinder Unit	1	
2(1)		VMA5840	Wire Cover	1	
3(1)		VEH0103	Upper Cylinder Unit	1	
4(1)		VXA1584	Discharge Angle Unit	1	
5(1)		VXP0431	Roller Post Unit	2	
6(1)		VXA1191	Inclind Base (S) Unit	1	
7(1)		VXA1189	Shaft Holder (S) Unit	1	
8(1)		VMD0100	Post Stopper	2	
9(1)		VXA1084	Inclind Base (B) Unit	1	
10(1)		VXA1190	Shaft Holder (T) Unit	1	
11(1)		VMX0301	Guide Snap	1	
12(1)		VMD0369	Wire Holder	1	
13(1)		VBS0023	Erase Head	1	
14(1)		VML1370	Erase Head Lever	1	
15(1)		VMB1005	Erase Head Lever Spring	1	
16(1)		VMA4436	Shaft Holder Spring	2	
17(1)		VHN0014	"X" Adjust Nut	1	
18(1)		VXA1567	Loading Base 1 Unit	1	
19(1)		VXL0753	Loading Arm (L) Unit	1	
20(1)		VXL0754	Loading Arm (R) Unit	1	
21(1)		VMX0257	Arm Sleeve	2	
22(1)		VMB0669	Loading Spring	2	
23(1)		VXP0325	Loading Gear Unit	2	
24(1)		VHD0045	Nylon Nut	1	
25(1)		VMX0297	Upper Limiter	1	
26(1)		VMX0288	Collar	1	
27(1)		VDP0759	Supply Roller	1	
28(1)		VMX0456	Limiter (S)	1	
29(1)		VMX0457	Under Limiter	1	
30(1)		VMB0754	Supply Limiter Spring	1	
31(1)		VMX0271	P4 Cap	1	
32(1)		XNG3BS	M3 Nut	1	
33(1)		VMX0455	Post Sleeve	1	
34(1)		VMB0699	P4 Spring	1	
35(1)		VMX0256	Stopper Snap	1	
36(1)		VHD0054	Adjust Screw	1	
37(1)		VMB0404	Adjust Spring	1	
38(1)		VXA1571	Head Base B Unit	1	
39(1)		VMB0997	A/C Head Height Spring	1	
40(1)		VBR0050	A/C Head	1	
41(1)		VMD0145	LED Holder	1	
42(1)		VXA1580	Hall IC Base 1 Unit	1	
43(1)		VML1235	Idler Stopper	1	
44(2)		VXR0092	Supply Reel Table Unit	1	
45(2)		VXR0079	Take-Up Reel Table Unit	1	
46(2)		VXL0868	Brake Arm (L) Unit	1	
47(2)		VXL0867	Brake Arm (R) Unit	1	
48(2)		VMB0661	Brake Arm Spring	1	
49(2)		VMB0660	Brake Lever Spring	2	
50(2)		VXP0432	Pressure Roller Unit	1	
51(2)		VXP0401	Idler Unit	1	
52(2)		VXL0997	Idler Arm 2 Unit	1	
53(2)		VXL0875	S Brake Release Unit	1	
54(2)		VXA1574	Brake Release Base Unit	1	
55(2)		VSH0043	Safety Tab Switch	1	
56(2)		VMA5372	Nut Plate	1	
57(2)		VMA5826	Cassette Holder Angle	1	
58(2)		VXL0974	Tension Arm Unit	1	
59(2)		VXZ0129	Tension Band Unit	1	
60(2)		VMB1004	Tension Spring	1	
61(2)		VXZ0110	Soft Brake Arm Unit	1	
62(2)		VMB0710	Soft Brake Spring A	1	VMB0701
63(2)		VML1372	Soft Brake Lever A	1	
64(2)		VMB1024	Soft Brake Spring	1	
65(2)		VMA5902	Spring Hook	1	
66(2)		VML1366	Kick Lever 1	1	
67(2)		VMA5817	Lever Holder	1	
68(2)		VMB0999	Kick Lever Spring 1	1	
69(2)		VDG0017	Intermediate Gear	1	
70(2)		VDG0069	Cam Gear	1	
71(2)		VMX0268	Action Gear Sleeve	1	
72(2)		VDG0016	Action Gear	1	
73(2)		VMA4088	Holder	1	
74(2)		VXL0988	Sector Gear Unit	1	
75(2)		VMB1002	Sub Rod Spring	1	
76(2)		VMB0890	Kick Lever Spring 2	1	
77(2)		VML1273	Kick Lever 2	1	
78(2)		VMX0122	Slide Washer	3	
79(2)		VXL0976	Main Lever Unit	1	
80(2)		VMB0680	Adjust Spring	1	
81(2)		VMX0471	Slide Washer	3	
82(2)		VXL0988	Sub Lever Unit	1	
83(2)		VDG0080	Kick Gear	1	
84(2)		VXA1581	Reel Motor Bracket 1 Unit	1	
85(2)		VDG0081	Clutch Gear	1	
86(2)		VMX0405	Clutch Collar	1	
87(2)		VMB0897	Clutch Spring	1	
88(2)		VDP0850	Clutch Pulley	1	
89(2)		VMA4739	Earth Angle	1	
90(2)		MYN13V5L	Reel Motor	1	
91(2)		VMB0673	Stopper Spring	1	
92(2)		VML1278	Eject Lever (B)	1	
93(2)		VML1277	Eject Lever (A)	1	
94(2)		VXA1612	Lock Base 1 Unit	1	
95(2)		VMB0731	Eject Spring	1	
96(2)		VSH0013	Leaf Switch	1	
97(2)		VML1276	Lock Slide Lever	1	
98(2)		VML1103	Lock Lever	1	
99(2)		VDM1004	Tension Spring	1	
100(2)		VMA5813	Adjust Hook	1	
101(3)		VEM0135	Loading Motor	1	
102(3)		MAX13V9LP	Capstan Motor	1	
103(3)		VXA1572	Motor Bracket 1 Unit	1	
104(3)		VMA5951	Shield Case Bracket	1	
105(3)		VJF0035	Clip	1	
106(3)		VMD0141	Place Fix Bracket	1	
107(3)		VDP0735	Loading Intermediate Pulley	1	
108(3)		VDV0122	Loading Belt (1)	1	
109(3)		VMA5819	Mode Select Switch Angle (A)	1	
110(3)		VMA5821	Mode Select Switch Angle (B)	1	
111(3)		VSS0060	Mode Select Switch	1	
112(3)		VJR3	Clamper	1	
113(3)		VMD0133	Belt Holder	1	
114(3)		VXA1576	Thrust Holder Unit	1	
115(3)		VDV0135	Loading Belt (2)	1	
116(3)		VDP0849	Large Pulley	1	
117(3)		VDP0750	Idler Pulley	1	
118(3)		VMA5816	Chassis Bracket (A)	1	
119(3)		VMD0368	Belt Cover	1	
120(3)		VMD0370	Brake Release Lever	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
121(3)		VXD0072	Capstan Holder Unit	1	
122(3)		VMD0104	Oil Pool	1	
123(3)		VMX0251	Oil Seal	1	
124(3)		VXP0433	Play Idler Unit	1	
125(3)		VMB0681	Play Idler Spring.	1	
126(3)		VDV0131	Capstan Belt	1	
127(3)		VDV0138	Kick Pulley Belt	1	
128(3)		VMA5322	Transistor Holder Angle	1	
			(R)		
129(3)		VMD0373	Transistor Holder (R)	1	
130(3)		VXP0443	Capstan J Unit	1	
131(4)		VXA1589	Cassette Up Unit	1	
132(4)		VMA4387	Cassette Compartment	1	
			Support Angle (F)		
133(4)		VDP0874	Roller	2	
134(4)		VMA3990	Holder Adjustment Plate	2	
135(4)		VMA4003	Holder Angle (L)	1	
136(4)		VMA4002	Holder Angle (R)	1	
137(4)		VMB0734	Lever Spring	1	
138(4)		VMB1008	Cassette Holder Spring	1	
139(4)		VMG0215	Cushion	1	
140(4)		VMB0735	Holder Spring (R)	1	
141(4)		VML1111	Sub Arm (R)	1	
142(4)		VML1110	Sub Arm (L)	1	
143(4)		VML1100	Main Arm (R)	1	
144(4)		VMA4388	Cassette Compartment	1	
			Support Angle (R)		
145(4)		VMD0269	Cassette Guide	1	
146(4)		VMB1011	Blind Spring	1	
147(4)		VKF0104	Blind	1	
148(4)		VMA4716	Transistor Holder Guard	1	
149(4)		VXA1588	Sensor Angle 1 Unit	1	
150(4)		VMG0206	Stopper Rubber	1	
151(4)		VDG0100	Damper Unit	1	
152(4)		VMD0092	Transistor Holder (L)	1	
153(4)		VMM0101	Coupling Rod	1	
154(4)		VMB0674	Holder Spring (L)	1	
155(4)		VMA5825	Chassis Angle (L)	1	
156(4)		VMA5813	Adjust Hook	1	
157(4)		VXL0873	Soft Brake (T) Unit	1	
158(4)		VMB0886	Soft Brake Spring (T)	1	
159(4)		VDP0772	Counter Pulley	1	
160(4)		VXA1570	Chassis Angle (R) 1 Unit	1	
161(5)		VJH0195	Jack Board	1	
162(5)		VJJ0091	BNC Jack	1	
163(5)		VJJ0090	RCA Jack	1	
164(5)		VMA5847	Earth Angle	1	
167(5)		VGQ0299	Power Cord Lock	1	
168(5)		VSC0708	Shield Case	1	
169(5)		VEJ0229	Remote Control Jack Unit	1	
170(5)		VGQ0300	Jack Holder	1	
171(5)		ENPE715	Antenna Terminal Unit	1	⚠ NV-333EO
171(5)		ENPE716	Antenna Terminal Unit	1	⚠ NV-333E/EG/B
172(5)		ENC17551	RF Converter	1	⚠ NV-333E/EG/EO
					or VSQ0223
172(5)		ENC-17552	RF Converter	1	⚠ NV-333B
173(5)		VGU0543	Counter Button	1*	NV-333E/EG/B(Silver)
173(5)		VGU0544	Counter Button	1	NV-333E/EG/EO(Black)
174(5)		VMB0904	Button Spring	3	
175(5)		VDC0029	Counter	1	
176(5)		VDV0137	Counter Belt	1	
177(5)		VMA5820	P.C. Board Angle	1	
178(5)		VKC0057	Hinge	1	
179(5)		VKC0056	Hinge	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
180(5)		VKU0173	Bottom Plate	1	
181(5)		VJF0112	P.C. Board Protector	1	
182(5)		VKF0144	Preset Door	1	NV-333E/EG/EO(Black)
182(5)		VKF0169	Preset Door	1	NV-333E/EG/B(Silver)
183(5)		VYP0633	Front Panel Unit	1	NV-333E/EG(Silver)
183(5)		VYP0634	Front Panel Unit	1	NV-333E/EG(Black)
183(5)		VYP0635	Front Panel Unit	1	NV-333EO
183(5)		VYP0667	Front Panel Unit	1	NV-333B
184(5)		VGP0700	Cassette Cover	1	NV-333E/EG/B(Silver)
184(5)		VGP0713	Cassette Cover	1	NV-333E/EG/EO(Black)
185(5)		VYP0637	Top Panel Unit	1	NV-333E/EG/B(Silver)
185(5)		VYP0638	Top Panel Unit	1	NV-333E/EG/EO(Black)
186(5)		ETP66PS241E	Transformer	1	⚠ NV-333E/EG/EO
186(5)		VTP0069	Transformer	1	⚠ NV-333B
187(5)		VMZ0368	Trans Barrier	1	⚠
188(5)		VHD0059	Screw	6	
189(5)		VHD0055	Screw	2	
190(6)		VPN0747	Cushion (R)	1	
191(6)		VPN0746	Cushion (L)	1	
192(6)		NV-E30	Cassette Tape	1	NV-333E/EG/EO(Sales)
192(6)		NV-E60	Cassette Tape	1	NV-333B (Sales)
193(6)		VJA0176	DIN Cable	1	
195(6)		VQF0800	Fan Bag	1	⚠ NV-333EG
195(6)		VQF0801	Fan Bag	1	⚠ NV-333E/EO
195(6)		VQF0802	Fan Bag	1	⚠ NV-333B
196(6)		VPG1090	Packing Case	1	NV-333EG(Silver)
196(6)		VPG1091	Packing Case	1	NV-333E(Silver)
196(6)		VPG1092	Packing Case	1	NV-333EO
196(6)		VPG1093	Packing Case	1	NV-333B
196(6)		VPG1104	Packing Case	1	NV-333EG(Black)
196(6)		VPG1120	Packing Case	1	NV-333E(Black)
197(1)		VMB0882	Idler Stopper Spring	1	
198(6)		VFP0144	Polyethylene Bag	1	
199(2)		VMX0249	Soft Brake Stopper	1	
200(4)		VDV0139	Counter Belt	1	
201(5)		VJA0111	AC Cord	1	⚠ NV-333E/EG/EO
201(5)		VJA0112	AC Cord	1	⚠ NV-333B

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
250(1,2,3,4,5)		XTV3+8BFN		35	
252(5)		XTV3+8G		1	
253(5)		XTV4+10A		3	
254(5)		XTV4+12BFN		2	
255(4,5)		XTV4+15A		1	
256(4)		XTV3+6FS		5	
257(2,4)		XTV3+6F		2	
258(4)		XTV4+35A		4	
259(3)		XTV3+10F		3	
260(3)		XTV3+18F		2	
261(3)		XTV3+C6S		1	
263(4)		XSX3+8S		4	
264(4)		XSN3+6S		8	
265(4)		XSN3+12S		1	
266(1,4)		XSN3+8S		4	
267(3)		XSN3+10S		1	
268(1,3)		XSN3+4S		7	
269(1,3)		XSN3+6S		2	
270(1,2)		XSN3+8S		7	
271(1)		XSN3+12S		4	
272(1)		XSN3+10BNS		2	
273(1)		XXE3A8FP		1	
274(2)		XSN2+10		2	
275(1)		XSN2+5		1	
276(2)		XXE26D3FP		1	
277(1)		XSS26+6		1	
278(2)		XYC3+BFS		2	
279(2)		XSN3+10S		1	
280(2)		XSS3+6S		3	
281(1)		XSN3D+10S		1	
290(1,2,3)		XUE4FT		10	
291(1,2,3,4)		XWXV4D9		11	
292(2)		XWG4		1	
293(2)		XWXV4D11		3	
294(2)		XWXV51F66		1	
295(2)		XWXV3Z6		1	
296(1,2,3,4)		XUC25FT		7	
297(2,3,4)		XUC3FT		10	
298(2,3)		XWXV3D6		18	
299(2)		XWA3B		1	
300(2)		XUC15FT		2	
301(1)		XNG4ES		1	
302(2)		XNG3ES		1	
303(2,3,4)		XWXV2D4		4	
304(3)		XWC3B		1	
305(4)		XUC15FT		2	
306(4)		XUEV2FP		2	
307(2,3)		XWXV3D		2	

LECTRICAL REPLACEMENT PARTS LIST

odel No. NV-333E/EG/B/EO

Notes:
1. • Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
3. Unless otherwise specified,
   All resistors are in OHMS (Ω), 1/8 W ± 5% carbon. K=1,000Ω, M=1,000 KΩ.
   All capacitors are in MICROFARADS (μF). ± 10% P=μμF.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP00892A	POWER TRANSFORMER P.C.	1	⚠ NV-333E/EG/EO
		BOARD UNIT		
	VEP1103B	POWER TRANSFORMER P.C.	1	⚠ NV-333B
		BOARD UNIT		
	VEP02143A	SERVO & SYSTEM CONTROL	1	
		P.C. BOARD UNIT		
	VEP03133A	LUMINANCE, CHROMINANCE,	1	NV-333E/EO/B
		AUDIO & POWER SUPPLY		
		P.C. BOARD UNIT		
	VEP03133B	LUMINANCE & CHROMINANCE	1	NV-333EG
		AUDIO & POWER SUPPLY		
		P.C. BOARD UNIT		
	VEP07123A	TV DEMODULATOR P.C.	1	NV-333E, EG
		BOARD UNIT		
	VEP07123B	TV DEMODULATOR P.C.	1	NV-333B
		BOARD UNIT		
	VEP07123C	TV DEMODULATOR P.C.	1	NV-333EO
		BOARD UNIT		
	VEP07124B	FRONT P.C. BOARD UNIT	1	NV-333E, EG
	VEP07124C	FRONT P.C. BOARD UNIT	1	NV-333EO
	VEP07124D	FRONT P.C. BOARD UNIT	1	NV-333B
	VJB00639	SENSOR LAMP P.C.B.	1	
	VJB00709	SUPPLY PHOTO SENSOR P.C.B.	1	
	VJB00872	MOTOR CONNECTION P.C.B.	1	
	VJB00872	TAKE-UP PHOTO SENSOR	1	
		P.C.B.		
	VJB00873	REVIEW SENSOR P.C.B.	1	
	VJB00876	REEL SENSOR P.C.B.	1	
	VJB00879	REMOTE CONTROL JACK	1	
		P.C.B.		
	VJB00891	OUTPUT TERMINAL P.C.B.	1	
	ENC17551	RF CONVERTER UNIT	1	⚠ NV-333E/EG/EO
				or VSQ0223
	ENC17552	RF CONVERTER UNIT	1	⚠ NV-333B
	ENPE716	ANTENNA BOOSTER	1	⚠ NV-333E/EG/B
	ENPE715	ANTENNA BOOSTER	1	⚠ NV-333EO
	TNV7756F2	TUNER UNIT	1	⚠ NV-333EO
	TNV7759F2	TUNER UNIT	[illegible]	⚠ NV-333E/EG

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	TNV87521F2	TUNER UNIT	1	⚠ NV-333B
	VTP0069	POWER TRANSFORMER	1	⚠ NV-333B
	ETP66PS241E	POWER TRANSFORMER	1	⚠ NV-333E/EG/EO
F1001	XBA2C10TROC	Fuse 1A	1	⚠
F1002	XBA2C25TROC	Fuse 2.5A	1	⚠
	TJC6320	Fuse Holder	4	
P1004	VJP1141	Connector 2P	1	
	VEP02143A	Servo & System Control		
		P.C. Board Unit		
		Integrated Circuits		
IC2001	μPC1504C		1	
IC2002	AN6677		1	
IC2003	μPC1504C		1	
IC6001	MN1405VKF		1	
IC6002,6003	M53216P		2	
IC6004	AN6912		1	
IC6005	μPD4069UBC		1	
IC6006	μPC358C		1	
		Transistors		
Q2001	2SD636		1	(Q)
Q2002,2003	2SB641		2	(Q)
Q2004,2005	2SD636		2	(Q)
Q2006	2SD889		1	(Q)
Q2007	2SD1265		1	
Q2008	2SB643		1	(Q)
Q2009,2010	2SD636		2	(Q)
Q6001	2SD636		1	(Q)
Q6002	2SB641		1	(Q)
Q6003	2SA719		1	(Q)
Q6004	2SD636		1	(Q)
Q6005-6007	2SA719		3	(Q)
Q6008	2SD636		1	(Q)
Q6009,6010	2SB641		2	(Q)
Q6011-6015	2SD636		5	(Q)
Q6016,6017	2SB793		2	(Q)
Q6018,6019	2SD973		2	(Q)

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
Q6020,6021	2SD636		2	(Q)
Q6022	2SB641		1	(Q)
Q6023,6024	2SD1273		2	
Q6025	2SD636		1	(Q)
Q6026,6027	2SB819		2	(Q)
Q6029	2SD1051		1	(Q)
Q6030	2SD636		1	(Q)
Q6031	2SB641		1	(Q)
		Diodes		
D2001	RD5.6EB	Zener	1	
D2002-2009	MA165		8	
D6001-6022	MA165		22	
D6023	MA26WO		1	
D6024-6028	MA165		5	
D6029,6030	OA90		2	
D6031-6034	MA165		4	
D6035	OA90		1	
D6036,6037	MA165		2	
D6039-6041	MA165		3	
D6042	RD12JB2	Zener	1	
D6043-6054	MA165		12	
D6061	MA165		1	
D6064,6065	MA165		2	
		Resistors		
R2001	ERD10TJ562	5.6K	1	
R2002	ERD10TJ223	22K	1	
R2003,2004	ERD10TJ683	68K	2	
R2005,2006	ERD10TJ563	56K	2	
R2007,2008	ERD10TJ333	33K	2	
R2009,2010	EVLV3U00MB15	Variable 100K	2	
R2011	ERD10TJ153	15K	1	
R2012	EVNK6AA00B25	Variable 200K	1	
R2013	ERD10TJ153	15K	1	
R2014	EVNK6AA00B25	Variable 200K	1	
R2015	ERD10TJ563	56K	1	
R2016	ERD10TJ104	100K	1	
R2017	EVMK4GA00B54	Variable 50K	1	
R2018	ERD10TJ223	22K	1	
R2019	ERD10TJ332	3.3K	1	
R2020	ERD10TJ683	68K	1	
R2021	ERO10TKG9102	Metal 91K	1	
R2022	EVMK4GA00B54	Variable 50K	1	
R2023	ERD10TJ332	3.3K	1	
R2024	ERD10TJ184	180K	1	
R2025	ERD10TJ103	10K	1	
R2026	ERD10TJ332	3.3K	1	
R2027	ERX12ANJR47	Metal Oxide 1/2W 0.47	1	
R2028-2030	ERD10TJ220	22	3	
R2031	ERD10TJ823	82K	1	
R2032	ERD10TJ153	15K	1	
R2033	ERD10TJ332	3.3K	1	
R2034	ERD10TJ823	82K	1	
R2035	EVMK6AA00B15	Variable 100K	1	
R2036	ERD10TJ103	10K	1	
R2037	ERD10TJ104	100K	1	
R2038	ERD10TJ221	220	1	
R2039	ERD10TJ105	1M	1	
R2040	ERD10TJ183	18K	1	
R2041	ERD10TJ102	1K	1	
R2042	ERD10TJ222	2.2K	1	
R2043	ERD10TJ333	33K	1	
R2044	EVMK4GA00B54	Variable 50K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R2045	ERD10TJ563	56K	1	
R2046	ERD10TJ104	100K	1	
R2047	ERD10TJ124	120K	1	
R2048	ERD10TJ822	8.2K	1	
R2049	ERO10TKG2201	Metal 2.2K	1	
R2050	ERD10TJ103	10K	1	
R2051	ERD10TJ223	22K	1	
R2052	ERD10TJ104	100K	1	
R2053	ERD10TJ123	12K	1	
R2054	ERD10TJ562	5.6K	1	
R2055	ERD10TJ153	15K	1	
R2056	ERD10TJ154	150K	1	
R2057	ERD10TJ102	1K	1	
R2058	ERD10TJ333	33K	1	
R2059	ERD10TJ102	1K	1	
R2060	ERQ14AJ390	Metal Oxide 1/4W 39	1	
R2061	ERQ2AJ6R8	Metal Oxide 2W 6.8	1	
R2062	ERD10TJ103	10K	1	
R2063	ERD10TJ101	100	1	
R2064	EVJEFAF20B15	Variable 10K	1	
R2065	ERD10TJ152	1.5K	1	
R2066	ERD10TJ472	4.7K	1	
R2067	ERD10TJ273	27K	1	
R2068	ERD10TJ154	150K	1	
R2070	ERD10TJ273	27K	1	
R2073,2074	ERC14GJ275	Hot Molded 1/4W 2.7M	2	
R2075	EVJEFAF20B23	Variable 2K	1	
R6001	ERD10TJ563	56K	1	
R6002	ERD10TJ153	15K	1	
R6003,6004	ERD10TJ223	22K	2	
R6005	ERD10TJ103	10K	1	
R6006	ERD10TJ152	1.5K	1	
R6007-6009	ERD10TJ223	22K	3	
R6010	ERD10TJ103	10K	1	
R6011	ERD10TJ152	1.5K	1	
R6012	ERD10TJ103	10K	1	
R6013	ERD10TJ152	1.5K	1	
R6014	ERD10TJ103	10K	1	
R6015	ERD10TJ152	1.5K	1	
R6016	ERX1ANJ1R0	Metal Oxide 1W 1.0	1	
R6017	ERG14AJ560	Metal Oxide 1W 56	1	⚠
R6018	ERD10TJ184	180K	1	
R6019	ERD10TJ333	33K	1	
R6020,6021	ERD10TJ103	10K	2	
R6022	ERD10TJ152	1.5K	1	
R6023,6024	ERD10TJ103	10K	2	
R6025	ERD10TJ333	33K	1	
R6026	ERD10TJ103	10K	1	
R6027,6028	ERD10TJ124	120K	2	
R6029	ERD10TJ103	10K	1	
R6030	ERD10TJ562	5.6K	1	
R6031	ERD10TJ103	10K	1	
R6032,6033	ERD10TJ223	22K	2	
R6034	ERD10TJ333	33K	1	
R6035,6036	ERD10TJ103	10K	2	
R6037	ERD10TJ682	6.8K	1	
R6038,6039	ERD10TJ103	10K	2	
R6040	ERD10TJ152	1.5K	1	
R6041	ERD10TJ102	1K	1	
R6042	ERD10TJ124	120K	1	
R6043	ERD10TJ223	22K	1	
R6044	ERD10TJ105	1M	1	
R6045	ERD10TJ332	3.3K	1	
R6046	ERO10TKG1542	Metal 15.4K	1	
R6047	ERD10TJ474	470K	1	
R6048	ERO10TKG1212	Metal 12.1K	1	
R6049	ERO10TKG2261	Metal 2.26K	1	
R6050	ERD10TJ223	22K	1	
R6051	ERD10TJ823	82K	1	
R6052	ERD10TJ224	220K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R6053	ERD10TJ563	56K	1	
R6054	ERD10TJ822	8.2K	1	
R6055	ERD10TJ105	1M	1	
R6056	ERD10TJ391	390	1	
R6057	ERD10TJ104	100K	1	
R6058	ERD10TJ103	10K	1	
R6059	ERD10TJ333	33K	1	
R6060	ERD25TJ681	1/4W 680	1	
R6061	ERD50TJ681	1/2W 680	1	
R6062	ERD10TJ333	33K	1	
R6063	ERD10TJ103	10K	1	
R6064	ERD10TJ223	22K	1	
R6065	ERD10TJ103	10K	1	
R6066	ERD10TJ102	1K	1	
R6067,6068	ERD10TJ223	22K	2	
R6069	ERD10TJ182	1.8K	1	
R6070	ERD10TJ273	27K	1	
R6071	ERD10TJ332	3.3K	1	
R6072	ERD10TJ333	33K	1	
R6073	ERD10TJ153	15K	1	
R6074	ERD10TJ102	1K	1	
R6075	ERD10TJ682	6.8K	1	
R6076	ERD10TJ562	5.6K	1	
R6077	ERD10TJ152	1.5K	1	
R6078,6079	ERD10TJ103	10K	2	
R6080	ERX1ANJR82	Metal Oxide 1W 0.82	1	
R6081,6082	ERD10TJ274	270K	2	
R6083	ERD10TJ222	2.2K	1	
R6084,6085	ERD10TJ102	1K	2	
R6086	ERD10TJ223	22K	1	
R6087,6088	ERD10TJ102	1K	2	
R6089	ERD10TJ223	22K	1	
R6090	ERD50TJ221	1/2W 220	1	
R6091	ERD50TJ471	1/2W 470	1	
R6092	ERD10TJ154	150K	1	
R6093	ERD10TJ472	4.7K	1	
R6094	ERD10TJ223	22K	1	
R6095-6098	ERD10TJ102	1K	4	
R6099	ERD10TJ223	22K	1	
R6100,6101	ERD10TJ471	470	2	
R6102-6104	ERD10TJ333	33K	3	
R6105	ERD10TJ222	2.2K	1	
		Capacitors		
C2001	ECQM1H472KZ	Mylar 50V 4700P	1	
C2002	ECKF1H103KB	Ceramic 50V 0.01	1	
C2003	ECEA1CS100	Electrolytic 16V 10	1	
C2004	ECQV05563JZ	Mylar 50V 0.056	1	
C2005,2006	ECQM1H183KZ	Mylar 50V 0.018	2	
C2007	ECQM1H273KZ	Mylar 50V 0.027	1	
C2008	ECQM1H683KV	Mylar 50V 0.068	1	
C2009	ECQM1H223KZ	Mylar 50V 0.022	1	
C2010	ECQV05224JZ	Mylar 50V 0.22	1	
C2011	ECEA1CS220	Electrolytic 16V 22	1	
C2012	ECQM1H683KV	Mylar 50V 0.068	1	
C2013	ECQM1H393KS	Mylar 50V 0.039	1	
C2014	ECQV05154JZ	Mylar 50V 0.15	1	
C2015	ECEA1AS330	Electrolytic 10V 33	1	
C2016	ECQM1H103KZ	Mylar 50V 0.01	1	
C2017	ECEA1AS101	Electrolytic 10V 100	1	
C2018	ECEA1CS101	Electrolytic 16V 100	1	
C2019	ECQM1H103KZ	Mylar 50V 0.01	1	
C2020	ECQM1H333KS	Mylar 50V 0.033	1	
C2021	ECEA1HS3R3	Electrolytic 50V 3.3	1	
C2022-2024	ECEA1HN2R2	Electrolytic 50V 2.2	3	
C2025	ECEA1HS2R2	Electrolytic 50V 2.2	1	
C2026-2028	ECEA50ZFR22	Electrolytic 50V 22	3	
C2029	ECQM1H822KZ	Mylar 50V 8200P	1	
C2030	ECEA1CS100	Electrolytic 16V 10	1	
C2031	ECQM1H223KZ	Mylar 50V 0.022	1	
C2032	ECEA50ZR1	Electrolytic 50V 0.1	1	
C2033	ECEA1HS010	Electrolytic 50V 1	1	
C2034	ECQV05104JZ	Mylar 50V 0.1	1	
C2035	ECEA1CS100	Electrolytic 16V 10	1	
C2036	ECQM1H683KV	Mylar 50V 0.068	1	
C2037	ECQM1H333KS	Mylar 50V 0.033	1	
C2038	ECEA1CS470	Electrolytic 16V 47	1	
C2039	ECEA1AS470	Electrolytic 10V 47	1	
C2040	ECEA1CS100	Electrolytic 16V 10	1	
C2041	ECKF1H103KB	Ceramic 50V 0.01	1	
C2042	ECEA1AS221	Electrolytic 10V 220	1	
C2043	ECEA1HS010	Electrolytic 50V 1	1	
C2044	ECEA1CS100	Electrolytic 16V 10	1	
C2045	ECEA1AS102	Electrolytic 10V 100	1	
C2046	ECQV05274JZ	Mylar 50V 0.27	1	
C2047	ECQV05104JZ	Mylar 50V 0.1	1	
C2048	ECQV05104JB	Mylar 50V 0.1	1	
C2049	ECEA1CS100	Electrolytic 16V 10	1	
C2051	ECEA50ZR47	Electrolytic 50V 0.47	1	
C6001	ECEA1AS470	Electrolytic 10V 47	1	
C6002	ECKF1H103ZF	Ceramic 50V 0.01	1	
C6003,6004	ECQV05104JZ	Mylar 50V 0.1	2	
C6005	ECEA50ZR1	Electrolytic 50V 0.1	1	
C6006,6007	ECEA25Z3R3	Electrolytic 25V 3.3	2	
C6008,6009	ECCF1H101	Ceramic 50V 100P	2	
C6010	ECEA1AS101	Electrolytic 10V 100	1	
C6011	ECQV05184JZ	Mylar 50V 0.18	1	
C6012	ECQM1H682JZ	Mylar 50V 6800P	1	
C6013	ECEA1AS470	Electrolytic 10V 47	1	
C6014,6015	ECKF1H103ZF	Ceramic 50V 0.01	2	
C6016	ECEA50Z1	Electrolytic 50V 1	1	
C6017-6019	ECKF1H103ZF	Ceramic 50V 0 01	3	
C6020	ECQM1H472KZ	Mylar 50V 4700P	1	
C6021,6022	ECKF1H102ZF	Ceramic 50V 1000P	2	
C6025	ECEA1HS010	Electrolytic 50V 1	1	
C6026	ECQM1H104KV	Mylar 50V 0.1	1	
C6027	ECEA1AS220	Electrolytic 10V 22	1	
C6028	ECEA1HN010	Electrolytic 50V 1	1	
		Coil		
L2001	VLQ80F102K	1mH	1	
		Crystal		
X6001	VSX0100		1	
		Resistor Arrays		
RX6001	EXBP87223K	22K	1	
RX6002	EXBP87332K	3.3K	1	
RX6003	EXBP88223J	22K	1	
RX6004,6005	EXBP84103K	10K	1	
		Relay		
RY1	VSY2029		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Connectors		
P1	VJP1147	12P	1	
P2001	VJP1141	2P	1	
P6010	VJP1141	2P	1	
P6011	VJP1142		1	
	VEP03133A/B	Luminance, Chrominance		
		Audio & Power Supply		
		P.C. Board Unit		
		Integrated Circuits		
IC1001	STR1096		1	
IC3001	AN6306		1	
IC3002	AN6326		1	
IC3003	AN6327		1	
IC3004	BA7004		1	
IC4001	TA7325P		1	
IC8001	AN6360		1	
IC8002	AN6363		1	
IC8003	AN6371		1	
IC8004	AN6342N		1	
IC8005	BA7007		1	NV-333EG
		Transistors		
Q1001	2SD636		1	(Q)
Q1002	2SD973		1	(Q)
Q3001,3002	2SB641		2	
Q3003	2SD636		1	
Q3004	2SC2377		1	
Q3005	2SC2206		1	
Q3006	2SB641		1	
Q3007	2SC2377		1	
Q3008,3009	2SD638		2	
Q3010	2SC2206		1	
Q3011,3012	2SD636		2	
Q3013	2SC2206		1	
Q3014	2SC2206			

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
Q3015	2SC2206		1	
Q3016	2SD636		1	
Q3017	2SB641		1	
Q3018	2SC2206		1	
Q3019	2SB641		1	
Q3020	2SB819		1	
Q3021,3022	2SD636		2	
Q3027	2SD636		1	
Q3028	2SB641		1	
Q4001,4002	2SD637		2	(R)
Q4003	2SB642		1	(R)
Q4004-4006	2SD636		3	(Q)
Q4007	2SD655		1	
Q4008	2SD636		1	(Q)
Q4009	2SB641		1	(Q)
Q4010	2SD655		1	
Q4011	2SD636		1	(Q)
Q4012	2SB641		1	(Q)
Q4013	2SD636		1	(Q)
Q4014	2SD639		1	(R)
Q8001	2SD636		1	
Q8002	2SC2206		1	(B) NV-333EG
Q8003	2SD636		1	
Q8004	2SC2206		1	
Q8005	2SD636		1	(Q) NV-333EG
Q8006	2SD636		1	
		Diodes		
D1001-1008	10E1		8	⚠
D1009-1011	MA165		3	
D1012	RD18EB3	Zener	1	
D1013	1SS16		1	
D1014	10E1		1	⚠
D1015	MA165		1	
D1016	RD13EB2	Zener	1	
D1018	MA165		1	
D3001	MA165		1	
D3002	RD3.0EB	Zener	1	
D3003,3004	MA165		2	
D3006,3007	MA165		2	
D3011,3012	MA165		2	
D3013,3014	1SS16		2	
D3022	MA165		1	
D4001	RD5.6EB	Zener	1	
D4002,4003	MA165		2	
D8001	MA165		1	
D8002-8004	MA165		3	NV-333EG
D8005-8008	MA165		4	
		Resistors		
R1001	ERD10TJ563	56K	1	
R1002	ERD10TJ562	5.6K	1	
R1003	ERD10TJ153	15K	1	
R1004	ERD10TJ472	4.7K	1	
R1005	ERD10TJ332	3.3K	1	
R1006	ERQ12HJ1R0	1/2W 1	1	⚠
R1007	ERD50FJ821	1/2W 820	1	
R1008	ERD50FJ272	1/2W 2.7K	1	
R1010	ERQ14AJ3R3	1/4W 3.3	1	⚠
R3001,3002	ERD10TJ102	1K	2	
R3003	ERD10TJ562	5.6K	1	
R3004	ERD10TJ392	3.9K	1	
R3005	ERD10TJ122	1.2K	1	
R3006	ERD10TJ222	2.2K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R3007		ERD10TJ392	3.9K	1	
R3008		ERD10TJ272	2.7K	1	
R3009		ERD10TJ182	1.8K	1	
R3010		ERD10TJ103	10K	1	
R3011		EVNK6AA00B24	Variable 20K	1	
R3012,3013		EVNK6AA00B14	Variable 10K	2	
R3014		ERD10TJ564	560K	1	
R3015		ERD10TJ681	680	1	
R3016		ERD10TJ271	270	1	
R3017		EVNK6AA00B54	Variable 50K	1	
R3018		ERD10TJ563	56K	1	
R3019		EVNK6AA00B24	Variable 20K	1	
R3020		EVNK6AA00B23	Variable 2K	1	
R3021		ERD10TJ561	560	1	
R3022		ERD10TJ820	82	1	
R3023		ERD10TJ471	470	1	
R3024		ERD10TJ124	120K	1	
R3025		ERD10TJ473	47K	1	
R3026		ERD10TJ562	5.6K	1	
R3027		ERD10TJ122	1.2K	1	
R3028		ERD10TJ152	1.5K	1	
R3029		ERD10TJ821	820	1	
R3030		ERD10TJ181	180	1	
R3031		ERD10TJ560	56	1	
R3032,3033		ERD10TJ682	6.8K	2	
R3034,3035		ERD10TJ560	56	2	
R3036		ERD10TJ152	1.5K	1	
R3037		ERD10TJ100	10	1	
R3038		ERD10TJ332	3.3K	1	
R3039		ERD10TJ223	22K	1	
R3040		ERD10TJ332	3.3K	1	
R3041		ERD10TJ100	10	1	
R3042,3043		EVNK6AA00B13	Variable 1K	2	
R3044		ERD10TJ273	27K	1	
R3046		ERD10TJ152	1.5K	1	
R3047		ERD10TJ152	1.5K	1	
R3048		ERD10TJ681	680	1	
R3049		ERD10TJ152	1.5K	1	
R3050		ERD10TJ102	1K	1	
R3051		ERD10TJ561	560	1	
R3052		ERD10TJ102	1K	1	
R3053		ERD10TJ560	56	1	
R3055		ERD10TJ102	1K	1	
R3056		ERD10TJ103	10K	1	
R3057		ERD10TJ182	1.8K	1	
R3058,3059		ERD10TJ391	390	2	
R3060		ERD10TJ561	560	1	
R3062		ERD10TJ561	560	1	
R3064		ERD10TJ392	3.9K	1	
R3065		ERD10TJ152	1.5K	1	
R3066		ERD10TJ102	1K	1	
R3068		ERD10TJ331	330	1	
R3069		ERD10TJ102	1K	1	
R3070		ERD10TJ222	2.2K	1	
R3071		ERD10TJ102	1K	1	
R3072		ERD10TJ334	330K	1	
R3074		ERD10TJ681	680	1	
R3075		ERD10TJ564	560K	1	
R3076		ERD10TJ222	2.2K	1	
R3077		ERD10TJ100	10	1	
R3078,3079		ERD10TJ222	2.2K	2	
R3080		ERD10TJ392	3.9K	1	
R3081		ERD10TJ821	820	1	
R3082		ERD10TJ222	2.2K	1	
R3084		ERD10TJ183	18K	1	
R3085		ERD10TJ562	5.6K	1	
R3086		ERD10TJ151	150	1	
R3087		ERD10TJ391	390	1	
R3088		ERD10TJ151	150	1	
R3089		ERD10TJ121	120	1	
R3090		ERD10TJ680	68	1	
R3091		EVNK6AA00B23	Variable 2K	1	
R3092		ERD50TJ221S	1/2W 220	1	
R3093,3094		ERD10TJ102	1K	2	
R3095		ERD10TJ682	6.8K	1	
R3096		ERD10TJ152	1.5K	1	
R3097		ERD10TJ103	10K	1	
R3098		ERD10TJ152	1.5K	1	
R3099,3100		ERD10TJ682	6.8K	2	
R3101		ERD10TJ562	5.6K	1	
R3102		ERD10TJ182	1.8K	1	
R3103		ERD10TJ103	10K	1	
R3104,3105		ERD10TJ472	4.7K	2	
R3106		ERD10TJ103	10K	1	
R3113		ERD10TJ272	2.7K	1	
R3114		ERD10TJ561	560	1	
R3124-3126		ERD10TJ750	75	3	
R3128		ERD10TJ103	10K	1	
R3129		ERD10TJ223	22K	1	
R3130		ERD10TJ103	10K	1	
R3131		ERD10TJ332	3.3K	1	
R3132		ERD10TJ103	10K	1	
R3133-3136		ERD10TJ223	22K	4	
R3137		ERD10TJ332	3.3K	1	
R3138		ERD10TJ682	6.8K	1	
R3140		ERD10TJ271	270	1	
R3141		ERD10TJ102	1K	1	
R4001		ERD10TJ100	10	1	
R4002		ERD10TJ223	22K	1	
R4003		ERD10TJ332	3.3K	1	
R4004		ERD10TJ821	820	1	
R4005		ERD10TJ223	22K	1	
R4006		ERD10TJ273	27K	1	
R4007		ERD10TJ562	5.6K	1	
R4008		ERD10TJ332	3.3K	1	
R4009		ERD10TJ103	10K	1	
R4010		ERD10TJ223	22K	1	
R4011		ERD10TJ103	10K	1	
R4012		ERD10TJ473	47K	1	
R4013		ERD10TJ392	3.9K	1	
R4014		ERD10TJ223	22K	1	
R4015		ERD10TJ333	33K	1	
R4016,4017		ERD10TJ103	10K	2	
R4018		ERD10TJ105	1M	1	
R4019		ERD10TJ104	100K	1	
R4020		ERD10TJ101	100	1	
R4021		ERD10TJ104	100K	1	
R4022		ERD10TJ223	22K	1	
R4024		ERD10TJ332	3.3K	1	
R4025		ERD10TJ103	10K	1	
R4026		ERD10TJ334	330K	1	
R4027		ERD10TJ332	3.3K	1	
R4028		ERD10TJ101	100	1	
R4029		EVNK6AA00B53	Variable 5K	1	
R4030		ERD10TJ334	330K	1	
R4031		ERD10TJ223	22K	1	
R4032		ERD10TJ221	220	1	
R4033		ERD10TJ103	10K	1	
R4034		ERD10TJ332	3.3K	1	
R4035		ERD10TJ473	47K	1	
R4036		ERD10TJ392	3.9K	1	
R4037,4038		ERD10TJ562	5.6K	2	
R4039		ERD10TJ104	100K	1	
R4040		ERD10TJ333	33K	1	
R4041		ERD10TJ104	100K	1	
R4042		ERD10TJ100	10	1	
R4043		ERD10TJ151	150	1	
R4044		ERD10TJ332	3.3K	1	
R4045		ERD10TJ102	1K	1	
R4046		ERD10TJ183	18K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R4047	ERD10TJ153	15K	1	
R4048	EVNK6AA00B15	Variable 100K	1	
R4049	ERD10TJ4R7	4.7	1	
R4050	ERD10TJ153	15K	1	
R4051	ERD10TJ820	82	1	
R8001	ERD10TJ223	22K	1	
R8002	ERD10TJ103	10K	1	
R8003	ERD10TJ102	1K	1	
R8004	ERD10TJ331	330	1	
R8005	ERD10TJ822	8.2K	1	NV-333EG
R8006	ERD10TJ821	820	1	
R8007	ERD10TJ272	2.7K	1	NV-333EG
R8008	ERD10TJ331	330	1	NV-333EG
R8009,8010	ERD10TJ122	1.2K	2	
R8011	ERD10TJ684	680K	1	
R8012,8013	ERD10TJ102	1K	2	
R8014,8015	ERD10TJ122	1.2K	2	
R8016	EVNK6AA00B14	Variable 10K	1	
R8017	ERD10TJ391	390	1	
R8018	ERD10TJ103	10K	1	
R8019-8022	ERD10TJ391	390	4	
R8023	ERD10TJ153	15K	1	
R8024	ERD10TJ562	5.6K	1	
R8025	ERD10TJ681	680	1	
R8026	ERD10TJ151	150	1	
R8027	ERD10TJ471	470	1	
R8028	ERD10TJ152	1.5K	1	
R8029	EVNK6AA00B23	Variable 2K	1	
R8030	ERD10TJ562	5.6K	1	
R8031	ERD50TJ271S	1/2W 270	1	
R8032	ERD10TJ224	220K	1	
R8033	ERD10TJ102	1K	1	
R8034	ERD10TJ682	6.8K	1	
R8035	ERD10TJ222	2.2K	1	
R8036	EVNK6AA00B52	Variable 500	1	
R8037	ERD10TJ153	15K	1	
R8038,8039	ERD10TJ103	10K	2	
R8040	ERD10TJ562	5.6K	1	
R8041	ERD10TJ102	1K	1	
R8042	ERD10TJ472	4.7K	1	
R8043	ERD10TJ471	470	1	
R8044	ERD10TJ102	1K	1	NV-333EG
R8045,8046	ERD10TJ103	10K	2	NV-333EG
R8047	ERD10TJ102	1K	1	
R8048	ERD10TJ104	100K	1	
R8049	ERD10TJ102	1K	1	
R8050	ERD10TJ222	2.2K	1	
R8051	ERD10TJ224	220K	1	
R8052	ERD10TJ473	47K	1	
R8053	ERD10TJ274	270K	1	
R8054	ERD10TJ392	3.9K	1	
R8055	ERD10TJ182	1.8K	1	
R8056	ERD10TJ122	1.2K	1	
R8057	ERD10TJ472	4.7K	1	
R8058,8059	ERD10TJ471	470	2	
R8060	ERD10TJ272	2.7K	1	
R8061	ERD10TJ473	47K	1	NV-333EG
R8062	ERD10TJ331	330	1	NV-333EG
R8063	ERD10TJ222	2.2K	1	NV-333EG
R8064	ERD10TJ154	150K	1	NV-333EG
R8065	ERD10TJ564	560K	1	NV-333EG
R8066	ERD10TJ103	10K	1	
		Capacitors		
C1001	ECKF1H103ZF	Ceramic 50V 0.01	1	
C1002	ECEA1ES222	Electrolytic 25V 2200	1	⚠
C1003	ECES1EV332U	Electrolytic 50V 3300P	1	⚠
C1004	ECEA50ZR33	Electrolytic 50V 0.33	1	
C1005	ECEA1VSS221	Electrolytic 35V 220	1	
C1006	ECEA1VS470	Electrolytic 35V 47	1	
C1007	ECEA1VSS101	Electrolytic 35V 100	1	
C1009,1010	ECKF1H103ZF	Ceramic 50V 0.01	2	
C1011	ECEA1CS470	Electrolytic 16V 47	1	
C1012	ECEA1AS470	Electrolytic 10V 47	1	
C1013	ECEA1CS470	Electrolytic 16V 47	1	
C3001	ECEA1HNR47	Electrolytic 50V 0.47	1	
C3002,3003	ECKF1H271KB	Ceramic 50V 270P	2	
C3004	ECCF1H121KC	Ceramic 50V 120P	1	
C3005	ECEA1HS010	Electrolytic 50V 1	1	
C3006	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3007	ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3008	ECEA0JS470	Electrolytic 6.3V 47	1	
C3009	ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3010	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3011	ECCF1H121KC	Ceramic 50V 120P	1	
C3012	ECEA0JS221	Electrolytic 6.3V 220	1	
C3013	ECCF1H390KC	Ceramic 50V 39P	1	
C3014	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3015	VCY25333KX	Semiconductor 25V 0.033	1	
C3016	ECEA0JS470	Electrolytic 6.3V 47	1	
C3017	ECEA1AS470	Electrolytic 10V 47	1	
C3018	ECCF1H820KC	Ceramic 50V 82P	1	
C3019	ECKF1H181KB	Ceramic 50V 180P	1	
C3020	ECEA1CS100	Electrolytic 16V 10	1	
C3021	ECKF1H221KB	Ceramic 50V 220P	1	
C3022,3023	ECKF1H103ZF	Ceramic 50V 0.01	2	
C3024	ECEA50Z1	Electrolytic 50V 1	1	
C3025	ECEA1CS100	Electrolytic 16V 10	1	
C3026	ECEA1HS010	Electrolytic 50V 1	1	
C3027	ECEA0JS470	Electrolytic 6.3V 47	1	
C3028	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3029	ECEA1CS100	Electrolytic 16V 10	1	
C3030	ECQV05104JB	Mylar 50V 0.1	1	
C3031,3032	ECV1ZW40X64	Trimmer 40P	2	
C3033	ECQV05104JB	Mylar 50V 0.1	1	
C3034	ECEA1CS100	Electrolytic 16V 10	1	
C3035	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3036	ECEA1CS100	Electrolytic 16V 10	1	
C3037	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3038	ECKF1H151KB	Ceramic 50V 150P	1	
C3039	ECKF1H271KB	Ceramic 50V 270P	1	
C3040	ECKF1H561KB	Ceramic 50V 560P	1	
C3041	ECCF1H560KC	Ceramic 50V 56P	1	
C3042	ECCF1H220KC	Ceramic 50V 22P	1	
C3043	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3044	ECKF1H271KB	Ceramic 50V 270P	1	
C3045	ECKF1H431JS	Ceramic 50V 430P	1	
C3046	ECCF1H820KC	Ceramic 50V 82P	1	
C3047	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3048	ECCF1H103ZF	Ceramic 50V 0.01	1	
C3049	ECCF1H120KC	Ceramic 50V 12P	1	
C3050	ECCF1H103ZF	Ceramic 50V 0.01	1	
C3051	ECKF1H103ZF	Ceramic 50V 0.01	1	
C3052	ECQV05104JB	Mylar 50V 0.1	1	
C3053	ECCF1H470KC	Ceramic 50V 47P	1	
C3054-3056	ECKF1H103ZF	Ceramic 50V 0.01	3	
C3057	ECKF1H222KB	Ceramic 50V 2200P	1	
C3058	ECEA0JS221	Electrolytic 6.3V 220	1	
C3059	ECKF1H181KB	Ceramic 50V 180P	1	
C3060,3061	ECEA1HS010	Electrolytic 50V 1	2	
C3062	ECKF1H181KB	Ceramic 50V 180P	1	
C3063	ECEA1CS100	Electrolytic 16V 10	1	
C3064	ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3065	ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3066	ECKF1H102KB	Ceramic 50V 1000P	1	
C3067	ECEA0JS470	Electrolytic 6.3V 47	1	
C3068	ECKF182JSA	Ceramic 50V 1800P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
3069	ECKF1H471JS	Ceramic 50V 470P	1	
3070	ECKF1H102KB	Electrolytic 50V 1000P	1	
3071	ECKF1H391KB	Ceramic 50V 390P	1	
3072	ECEA1CS100	Electrolytic 16V 10	1	
3073	ECEA0JS471	Electrolytic 6.3V 4.7	1	
3074	ECEA1CS101	Electrolytic 16V 100	1	
3075	ECEA1CS100	Electrolytic 16V 10	1	
3076	ECQM1H472KZ	Mylar 50V 4700P	1	
3080,3081	ECEA1CS100	Electrolytic 16V 10	2	
3082,3083	VCY25332KX	Semiconductor 25V 3300P	2	
3086	ECEA1CS100	Electrolytic 16V 10	1	
3087	ECKF1H101KB	Electrolytic 50V 100P	1	
3088	ECCF1H390KC	Ceramic 50V 39P	1	
3089	ECKF1H821KB	Ceramic 50V 820	1	
3090	ECCF1H330KC	Ceramic 50V 33P	1	
3091	ECEA1AS470	Electrolytic 10V 47	1	
3092	ECQV05104JB	Mylar 50V 0.1	1	
3094	ECEA0JS221	Electrolytic 6.3V 220	1	
3095	ECQM1H562KZ	Mylar 50V 5600P	1	
3098	ECCF1H470KC	Ceramic 50V 47P	1	
4001,4002	ECEA1CS100	Electrolytic 16V 10	2	
4003	ECKF1H102KB	Electrolytic 50V 1000P	1	
4004	ECEA0JS330	Electrolytic 6.3V 33	1	
4005	ECQM1H333KS	Mylar 50V 0.033	1	
4006	ECEA1CS100	Electrolytic 16V 10	1	
4007	ECEA1ES3R3	Electrolytic 25V 3.3	1	
4008	ECEA0JS101	Electrolytic 6.3V 100	1	
4009	ECEA1CS100	Electrolytic 16V 10	1	
4010	ECQF6222KZ	Mylar 600V 2200P	1	
4011	ECEA1AS330	Electrolytic 10V 33	1	
4012	ECEA1CS100	Electrolytic 16V 10	1	
4013	ECEA1AS470	Electrolytic 10V 47	1	
4014	ECEA1HS010	Electrolytic 50V 1	1	
4015	ECKF1H471KB	Ceramic 50V 470P	1	
4016	ECKF1H103ZF	Ceramic 50V 0.01	1	
4017	ECEA1HS010	Electrolytic 50V 1	1	
4018	ECEA1CS221	Electrolytic 16V 220	1	
4019	ECQV05224JZ	Mylar 50V 0.22	1	
4020	ECEA1AS470	Electrolytic 10V 47	1	
4021	ECEA1HS010	Electrolytic 50V 1	1	
4022	ECEA1CS101	Electrolytic 16V 100	1	
4023	ECCF1H121K	Ceramic 500V 120P	1	
4024	ECEA1CS100	Electrolytic 16V 10	1	
4025	ECQM1H103KZ	Mylar 50V 0.01	1	
4026	VCY25333KX	Semiconductor 25V 0.033	1	
8002	ECKF1H102KB	Ceramic 50V 1000P	1	NV-333EG
8003-8005	ECKF1H103ZF	Ceramic 50V 0.01	3	
8006	ECEA1HS010	Electrolytic 50V 1	1	
8007	ECEA1CS330	Electrolytic 16V 33	1	
8008	ECKF1H103ZF	Ceramic 50V 0.01	1	
8009	ECKF1H331KB	Ceramic 50V 330P	1	
8010,8011	ECKF1H103ZF	Ceramic 50V 0.01	2	
8012	ECEA1CS100	Electrolytic 16V 10	1	
8013,8014	ECKF1H103ZF	Ceramic 50V 0.01	2	
8015	ECCF1H390KC	Ceramic 50V 39P	1	
8016	ECKF1H103ZF	Ceramic 50V 0.01	1	
8017	ECKF1H221KB	Ceramic 50V 220P	1	
8018	ECKF1H561KB	Ceramic 50V 560P	1	
8019	ECEA1CS100	Electrolytic 16V 10	1	
8020	VCY25122KX	Semiconductor 25V 1200P	1	
8021	ECKF1H821KB	Ceramic 50V 820P	1	
8022	ECEA1CS100	Electrolytic 16V 10	1	
8023	ECQM1H183JZ	Mylar 50V 0.018	1	
8024	ECCF1H121KC	Ceramic 50V 120P	1	
8025	ECCF1H181KC	Ceramic 50V 180P	1	
8026,8027	ECEA1CS330	Electrolytic 16V 33	2	
8028	ECKF1H103ZF	Ceramic 50V 0.01	1	
8029	ECEA1HS010	Electrolytic 50V 1	1	
8030,8031	ECQV05104JB	Mylar 50V 0.1	2	
8032	ECKF1H102KB	Ceramic 50V 1000P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C8033	ECKF1H821KB	Ceramic 50V 820P	1	
C8034,8035	ECKF1H103ZF	Ceramic 50V 0.01	2	
C8036	ECCF1H150KC	Ceramic 50V 15P	1	
C8037	ECKF1H101KB	Electrolytic 50V 100P	1	
C8038	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8039	ECEA1HS2R2	Electrolytic 50V 2.2	1	
C8040	VCY25333KX	Semiconductor 25V 0.033	1	
C8041	ECEA1CS100	Electrolytic 16V 10	1	
C8042	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8043	ECCF1H040DC	Ceramic 50V 4P	1	
C8044	ECV1ZW25X64	Trimmer 50V 25P	1	
C8045	ECCF1H060DC	Ceramic 50V 6P	1	
C8046	ECEA1CS330	Electrolytic 16V 33	1	
C8047	ECEA1CS100	Electrolytic 16V 10	1	
C8048	ECKF1H221KB	Ceramic 50V 220P	1	
C8049-8052	ECKF1H103ZF	Ceramic 50V 0.01	4	
C8053	ECCF1H101KC	Ceramic 50V 100P	1	
C8054	ECCF1H121KC	Ceramic 50V 120P	1	
C8055	ECV1ZW20X64	Trimmer 500V 20P	1	
C8056	ECCF1H150KC	Ceramic 50V 15P	1	
C8057	ECKF1H103ZF	Ceramic 50V 0.01	1	
C8058	ECEA1CS100	Electrolytic 16V 10	1	
C8059	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-333EG
C8060	ECEA1S330	Electrolytic 33	1	NV-333EG
C8061	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-333EG
C8062	ECQM1H183JZ	Mylar 50V 0.018	1	NV-333EG
C8063	ECEA1CS101	Electrolytic 16V 100	1	NV-333EG
C8064	ECEA1CS100	Electrolytic 16V 10	1	NV-333EG
C8065	ECCF1H390KC	Ceramic 50V 39P	1	
C8066	ECCF1H330J	Ceramic 50V 33	1	NV-333EG
C8100	ECQV05154JZ	Mylar 50V 0.15	1	
		Coils		
L3001	VLQEL06F221K	220μH	1	
L3002	VLQEL06F101K	100μH	1	
L3003	VLQEL06F820K	82μH	1	
L3004	VLQEL06F151K	150μH	1	
L3005	VLQEL06F270K	27μH	1	
L3006,3007	VLQEL06F101K	100μH	2	
L3008	VLQ80F102K	1mH	1	
L3009	VLQEL06F180K	18μH	1	
L3010	VLQEL06F471K	470μH	1	
L3011	VLQEL06F220K	22μH	1	
L3012,3013	VLQEL06F100K	10μH	2	
L3014	VLQEL06F151K	150μH	1	
L3015	VLQEL06F2R7K	2.7μH	1	
L3016	VLQEL06F101K	100μH	1	
L3018,3019	VLQEL06F101K	100μH	2	
L3020	VLQEL06F3R3K	3.3μH	1	
L3021	VLQEL06F150K	15μH	1	
L3023,3024	VLQEL06F101K	100μH	2	
L3025	VLQEL06F3R3K	3.3μH	1	
L3026	VLQEL06F560K	56μH	1	
L4001	VLQEL06F471K	470μH	1	
L4002	VLQ80F102K	1mH	1	
L8001,8002	VLQEL06F6R8K	6.8μH	2	
L8003	VLQEL06F101K	100μH	1	
L8004	VLQEL06F330K	33μH	1	
L8005	VLQEL06F101K	100μH	1	
L8006	VLQ02F682J	6.8mH	1	
L8007,8008	VLQEL06F101K	100μH	2	
L8009	VLQEL06F470K	47μH	1	
L8010	VLQEL06F560K	56μH	1	
L8011-8013	VLQEL06F101K	100μH	3	
L8014	VLQEL06F101K	100μH	1	NV-333EG
L8015	ELM10Q011C	Variable	1	NV-333EG
L8016	VLQEL06F390K	39μH	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
L8100	VLQ80F681K	680µH	1	
		Delay Lines		
DL3001	VLD0012		1	
DL8001	VLD0014		1	
		Filters		
FL3001	VLF0186		1	
FL3002	VLF0187		1	
FL3003	VLF0188		1	
FL8001	VLF0192		1	
FL8002	VLF0189		1	
FL8003	VLF0191		1	
FL8004	VLF0190		1	
FL8005	VLF0143		1	NV-333EG
FL8006	EFCS5R06MS4V		1	
		Crystals		
X3001	VSX0099		1	
X8001	VSX0068		1	
X8002	VSX0066		1	
		Connectors		
P002	VJP1144	6P	1	
P1002	VJP0097	8P	1	
P1003	VJP1145	8P	1	
P1005	VJP1141	2P	1	
		Switches		
S3001	VSS0052		1	
S3002	VSS0001		1	
		Transformer		
T4001	VLT0052		1	

Ref. No.	Part No.	Part Name & Description		Pcs / Set	Remarks
	VEP07123A/B/C	Demodulator P.C. Board			
		Unit			
		Integrated Circuits			
IC701	BN5115			1	
IC751	AN5215			1	
IC7001	µPC574JK			1	
		Transistors			
Q701	2SD636			1	
Q702	2SB641			1	
Q703	2SD636			1	(S,T)
Q704	2SK55P			1	(D)
Q7001,7002	2SB641			2	NV-333E/EG/EO
Q7003	2SD637			1	NV-333E/EG/EO
Q7004	2SD637			1	
Q7005	2SB642			1	
Q7006	2SD636			1	
Q7007	2SC1826			1	
Q7008	2SD637			1	
Q7009	2SC1826			1	
Q7010	2SA720			1	
Q7011	2SB642			1	
		Diodes			
D701,702	MA165			2	NV-333E/EG/EO
D7001-7004	MA165			4	
D7005	MA26WO			1	
D7006,7007	10E2			2	
D7008	MA165			1	
D7009	RD13EB3	Zener		1	
D7010	RD1.3EB1	Zener		1	
		Resistors			
R701	ERD10TJ223		22K	1	NV-333E/EG/EO
R701	ERD10TJ222		2.2K	1	NV-333B
R702	EVN50AA00B24	Variable	20K	1	NV-333E/EG/EO
R702	EVN50AA00B23	Variable	2K	1	NV-333B
R703	ERD10TJ182		1.8K	1	NV-333E/EG/EO
R703	ERD10TJ682		6.8K	1	NV-333B
R704	ERD10TJ682		6.8K	1	NV-333E/EG/EO
R705	EVN50AA00B23	Variable	2K	1	NV-333E/EG/EO
R706	ERD10TJ222		2.2K	1	NV-333E/EG/EO
R707	ERD10TJ154		150K	1	
R708	ERD10TJ393		39K	1	
R711	ERD10TJ274		270K	1	
R712	ERD10TJ183		18K	1	
R713	ERD10TJ392		3.9K	1	
R714	ERD10TJ102		1K	1	
R715	ERD10TJ391		390	1	
R716	ERD10TJ561		560	1	
R717	ERD10TJ102		1K	1	
R719	ERD10TJ561		560	1	
R720	ERD10TJ333		33K	1	
R722	ERD10TJ183		18K	1	
R723	ERD10TJ562		5.6K	1	
R724	ERO10TKG8200	Metal Oxide	820	1	
R725	ERD10TJ470		47	1	
R726	ERD10TJ680		68	1	
R727	ERO10TKG1001	Metal Oxide	1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R728	EVNK6AA00B14	Variable 10K	1	
R731	ERD10TJ680	68	1	
R732	ERD10TJ102	1K	1	
R733	ERD10TJ270	27	1	
R734	ERD10TJ332	3.3K	1	
R735	ERD10TJ220	22	1	
R737	ERD10TJ561	560	1	
R739	ERD10TJ152	1.5K	1	NV-333E/EG/EO
R739	ERD10TJ222	2.2K	1	NV-333B
R752	ERQ12HJ220	1/2W 22	1	⚠
R754	ERD10TJ152	1.5K	1	
R755	EVNK6AA00B24	Variable 20K	1	
R756	ERD10TJ102	1K	1	
R7001,7002	ERD10TJ223	22K	2	NV-333E/EG/EO
R7003	ERD10TJ153	15K	1	NV-333E/EG/EO
R7004,7005	ERD10TJ223	22K	2	NV-333E/EG/EO
R7006	ERD10TJ473	47K	1	NV-333E/EG/EO
R7007	ERD10TJ474	470K	1	
R7008	ERD10TJ154	150K	1	
R7009	ERD25TJ153	1/4W 15K	1	
R7010	ERD10TJ470	47	1	
R7011	ERD10TJ390	39	1	
R7012	ERD10TJ104	100K	1	
R7014,7015	ERD10TJ103	10K	2	
R7016	ERD25TJ3R9	1/4W 3.9	1	
R7017	ERD10TJ392	3.9K	1	
R7018	ERD10TJ271	270	1	
R7019	ERQ14AJ100	1/4W 10	1	⚠
R7020	ERQ12HJ3R9	1/2W 3.9	1	⚠
R7021	ERD10TJ2R2	2.2	1	
R7022	ERD10TJ102	1K	1	
		Capacitors		
C701	ECEA1CS220	Electrolytic 16V 22	1	
C702	ECEA1CS100	Electrolytic 16V 10	1	
C703	ECKF1H103ZF	Ceramic 50V 0.01	1	NV-333E/EG/EO
C704	ECEA1CS330	Electrolytic 16V 33	1	NV-333E/EG/EO
C705	ECEA50ZR68	Electrolytic 50V 0.68	1	
C706	ECEA1CS330	Electrolytic 16V 33	1	
C707,708	ECKF1H103ZF	Ceramic 50V 0.01	2	
C709	ECQV05224JZ	Mylar 50V 0.22	1	
C710	ECKF1H103ZF	Ceramic 50V 0.01	1	
C711,712	ECCF1H030CC	Ceramic 50V 3P	2	
C713	ECCF1H121JP	Ceramic 50V 120P	1	
C714	ECCF1H220JC	Ceramic 50V 22P	1	
C715,716	ECKF1H103ZF	Ceramic 50V 0.01	2	
C717	ECCF1H150JC	Ceramic 50V 15P	1	
C718	ECCF1H560JR	Ceramic 50V 56P	1	
C719	ECEA50Z1	Electrolytic 50V 1	1	
C720	ECKF1H103ZF	Ceramic 50V 0.01	1	
C721	ECEA1CS470	Electrolytic 16V 47	1	
C723	ECEA1EN4R7	Electrolytic 25V 4.7	1	
C724	ECCF1H150JC	Ceramic 50V 15P	1	
C726	ECCF1H680JC	Ceramic 50V 68P	1	
C727	ECCF1H100DC	Ceramic 50V 10P	1	NV-333E/EG/EO
C727	ECCF1H080DC	Ceramic 50V 8P	1	NV-333B
C728	ECCF1H100DC	Ceramic 50V 10P	1	
C731,732	ECKF1H103ZF	Ceramic 50V 0.01	2	
C733	ECCF1H680JC	Ceramic 50V 68P	1	
C734,375	ECKF1H103ZF	Ceramic 50V 0.01	2	
C736	ECEA1HN010	Electrolytic 50V 1	1	
C737	ECQV05104JZ	Mylar 50V 0.1	1	
C751	ECCF1H050CC	Ceramic 50V 5P	1	
C753	ECQM1H473KV	Mylar 50V 0.047	1	
C754	ECEA1CS101	Electrolytic 16V 100	1	
C755	ECCF1H390JP	Ceramic 50V 39P	1	
C756	ECCF1H120JC	Ceramic 50V 12P	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C757	ECKF1H561KB5	Ceramic 50V 560	1	
C759	ECEA1CS100	Electrolytic 16V 10	1	
C760	ECEA1HN010	Electrolytic 50V 1	1	
C761	ECQM1H393KS	Mylar 50V 0.039	1	
C7001	ECEA1S010	Electrolytic 50V 1	1	
C7002,7003	ECKF1H103ZF	Ceramic 50V 0.01	2	
C7004	ECEA1JS221	Electrolytic 63V 220	1	
C7005	ECEA1VS102	Electrolytic 35V 1000	1	
C7006	ECEA1VS471	Electrolytic 35V 470	1	
C7007	ECEA1VS221	Electrolytic 35V 220	1	
C7008	ECEA1S010	Electrolytic 50V 1	1	
C7009	ECEA1CS100	Electrolytic 16V 10	1	
		Coils		
L701	VLQEL06R470K	47μH	1	
L703	VLQEL06R150K	15μH	1	
L704	VLQEL06R470K	47μH	1	
L705	VLQEL06R560K	56μH	1	
L706	VLQEL06R820K	82μH	1	
		Crystals		
X702	EFCS5R5MS4		1	NV-333E/EG/EO
X702	EFCS6R0MW3		1	NV-333B
X703	EFCS5R5MW3		1	NV-333E/EG/EO
X703	EFCS6R0MN3		1	NV-333B
		Transformers		
T700	EIV7E016H		1	NV-333E/EG/EO
T700	EIV7E019A		1	NV-333B
T701	FULHLB307		1	NV-333E/EG/EO
T701	EULHLB352		1	NV-333
T702	EIM7A511		1	
T703	EIV7E016F		1	
T704	EIV7E016E		1	
T751	EIS7E006A		1	
T752	EIS7E006B		1	
		Combination Circuits		
RX701	EXRP220K272	22P 2.7K	1	
RX702	EXRP102K471	1000P 470	1	
RX751	EXRP820K333	82P 33K	1	
		Connectors		
P7001	VJP1141	5P	1	
P7002	VJP1146	10P	1	
P7003	VJP1188	4P	1	
P7006	VJP1142	3P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP07124B/C/D	Front P.C. Board Unit		
			Integrated Circuit		
IC7501		MN1435VXB		1	
			Transistors		
Q6501		2SD636		1	(Q)
Q7201		2SD636		1	
Q7202		2SB641		1	
Q7501		2SD636		1	
Q7502		2SB642		1	
Q7503		2SD636		1	
			Diodes		
D6501-6505		LN81RCPHL	LED	5	
D6506		LN41YCPHL	LED	1	
D7202-7205		LN31GCPUHL	LED	4	
D7208-7211		LN31GCPUHL	LED	4	
D7213		MA165		1	NV-333EO
D7214-7217		MA161		4	
D7218,7219		MA165		2	NV-333EO
D7220-7223		MA161		4	
D7224,7225		MA165		2	NV-333EO
D7226-7229		MA161		4	NV-333E/EG/EO
D7230,7231		MA165		2	NV-333EO
D7232-7235		MA165		4	NV-333E/EG/EO
D7236,7237		MA165		2	NV-333EO
D7238-7241		MA161		4	
D7242,7243		MA165		2	NV-333EO
D7244-7247		MA161		4	
D7248		MA165		1	NV-333EO
D7249		MA161		1	
D7501-7508		MA161		8	
D7509		RD12JB1	Zener	1	
D7510		MA165		1	
D7511		RD6.8JB2	Zener	1	
D7512,7513		MA165		2	
			Resistors		
R6501		ERD10TJ301	300	1	
R6502		ERD10TJ681	680	1	
R6503		ERD25TJ122	1/4W 1.2K	1	
R6504		ERD25TJ272	1/4W 2.7K	1	
R6505		ERD10TJ472	4.7K	1	
R6506		ERD10TJ822	8.2K	1	
R6507		ERD10TJ513	51K	1	
R6509		ERD10TJ623	62K	1	
R6510,6511		ERD10TJ223	22K	2	
R6512		ERD25TJ821	1/4W 820	1	
R6513,6514		ERD10TJ821	820	2	
R6515		ERD25TJ823	82K	1	
R7201,7202		ERD10TJ682	6.8K	2	
R7203		ERD10TJ153	15K	1	
R7204		ERD10TJ103	10K	1	
R7205		ERD10TJ153	15K	1	
R7206		ERD10TJ101	100	1	
R7207		ERD10TJ104	100K	1	
R7208		ERDS2TJ104	100K	1	
R7210		ERD25TJ681	1/4W 680	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R7211		EWEM8E450B24	Variable 20K	1	NV-333EO
R7212-7215		EWEM8E450B24	Variable 20K	4	
R7216,7217		EWEM8E450B24	Variable 20K	2	NV-333EO
R7218-7221		EWEM8E450B24	Variable 20K	4	
R7222		EWEM8E450B24	Variable 20K	1	NV-333EO
R7223		ERD10TJ122	1.2K	1	
R7501		ERD10TJ153	15K	1	
R7502		ERD10TJ682	6.8K	1	
R7503		ERD10TJ104	100K	1	
R7504		ERD10TJ103	10K	1	
R7505		EVNK6AA00B15	Variable 100K	1	
R7506		ERD10TJ273	27K	1	
R7507		ERD10TJ473	47K	1	
R7508		ERD10TJ153	15K	1	
R7509		ERD10TJ473	47K	1	
R7510		ERD10TJ153	15K	1	
R7511		ERD10TJ104	100K	1	
R7512		ERD10TJ102	1K	1	
			Capacitors		
C7201		ECEA1HK010	Electrolytic 50V 1	1	
C7202		ECQM1H223KZ	Mylar 50V 0.022	1	
C7203		ECKF1H103ZF	Ceramic 50V 0.01	1	
C7501		ECKF1H103ZF	Ceramic 50V 0.01	1	
C7502		ECCF1H101JC	Ceramic 50V 100P	1	
			Connectors		
P6006,6007		VJP1145		2	
P6008		VJP1144		1	
P7005		VJP1146		1	
			Switches		
S6501-6507		EVQPYT12K		7	
S7202		VSP0111		1	
S7203		VSP0119		1	
S7205		VSP0119		1	
S7208-7211		VSP0119		4	
S7213		EVQREAL05		1	NV-333EO
S7214-7223		EVQREAL05		10	NV-333E/EG/EO
S7224		EVQREAL05		1	NV-333EO
S7225		ESE153A		1	
S7227		VSP0111		1	
S7501		VSP0111		1	
S7502		EVVOQJ104K		1	
S7503		ESD14182		1	
S7504-7509		EVQQJ104K		6	
			Resonator		
X7501		VCR0031	Time Base Module	1	
			Resistor Array		
RX7501		EXBEQ7473K	47K	1	
RX7502		EXBEQ9473K	47K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Miscellaneous		
7501	VSL0010A	Display Tube	1	
		RF Converter Unit		
	ENC17551			NV-333E/EG/EO
				or VSQ0223
	ENC17552			NV-333B
	ENC17551	RF Converter Unit		NV-333E/EG/EO
		Integrated Circuit		
IC1	AN6395		1	
J0-1		UHF Oscillator	1	
		Transistors		
Q1,2	2SD636		2	
Q3,4	2SC1215		2	(R)
		Diodes		
D1	1S953		1	
D2,3	1SS86		2	
D4	MA1075	Zener	1	
	or RD7.5E			
		Resistors		
R1	ERD10TJ333	33K	1	
R2	ERJ8GCJ103	Chip 10K	1	
R3	ERJ8GCJ331	Chip 330	1	
R4	ERJ8GCJ474	Chip 470K	1	
R5	ERJ8GCJ392	Chip 3.9K	1	
R6	ERD10TJ182	1.8K	1	
R7	ERJ8GCJ122	Chip 1.2K	1	
R8	ERJ8GCJ821	Chip 820	1	
R9	ERJ8GCJ562	Chip 5.6K	1	
R10	ERJ8GCJ151	Chip 150	1	
R11	ERD10TJ472	4.7K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R12,13	ERJ8GCJ101	Chip 100	2	
R15	ERJ8GCJ270	Chip 27	1	
R16	ERD25TJ751	1/4W 750	1	
R17	ERJ8GCJ121	Chip 120	1	
R18	ERD10TJ393	39K	1	
R19	ERD25FJ560	1/4W 560	1	
R20,21	ERD10TJ822	8.2K	2	(UO-1)
R22	ERD10TJ391	390	1	(UO-1)
VR1	EVX138CA00B13	Variable 1K	1	
VR2	EVX138CA00B14	Variable 10K	1	
		Capacitors		
C1	ECEA1AK330	Electrolytic 10V 33	1	
C2	ECEA1HK3R3	Electrolytic 50V 3.3	1	
C3	CP2101J	Chip 100P	1	
C4	CP2040CC	Chip 4P	1	
C5	CP2222MD	Chip 2200P	1	
C6	CP2150CC	Chip 15P	1	
C7	ECCD1H820K	Ceramic 82P	1	
C8	CP2050CC	Chip 5P	1	
C9	CT1152ZX	Semiconductor 1500P	1	
C10	ECEA1EK4R7	Electrolytic 25V 4.7	1	
C11	CP2103MD	Chip 0.01	1	
C12	CP2150J	Chip 15P	1	
C13	CP2680J	Chip 68P	1	
C14	CP2151J	Chip 150P	1	
C15	CP2470J	Chip 47P	1	
C16	CP2270J	Chip 27P	1	
C17	ECV1ZW25X53N	Trimmer 25P	1	
C18	CP2221J	Chip 220P	1	
C19	CP2221J	Chip 220P	1	
C20	CY2102PE	1000P	1	(UO-1)
C21	CX2331KB	330P	1	(U001)
C22	CX2140K	14P	1	(UO-1)
C23	CX2040C	4P	1	(UO-1)
C24		Variable 7P	1	(UO-1) (Not Availanle)
C25	CP2070J	Chip 7P	1	
C26	CP2103MD	Chip 0.01	1	
C27	ECEA1CK470	Electrolytic 16V 47	1	
C28	CP2103MD	Chip 0.01	1	
C29	CP2102MD	Chip 1000P	1	
C30	ECCD1H010CC	Ceramic 50V 1P	1	(UO-1)
C31	CP2102MD	Chip 1000P	1	
C32	ECCD1H040CC	Ceramic 50V 4P	1	
C33	CU2DR2QA-S	0.2P	1	(UO-1)
		Coils		
L1	LP403804		1	
L2	FL3H8R2K	Peaking 8.2uH	1	
L3	LB1626092A02	Choke	1	
L4	LN07W350VL01		1	(UO-1)
L5	LN08W200L6		1	(UO-1)
L6	LB162609VU03	Choke	1	(UO-1)
		Transformer		
T1	VLT0327	SIF Oscillator	1	
T2	BRNA010V		1	
		Miscellaneous		
P1	VJP1143	Connector 5P	1	
PJ	PNJA002E	Pin Jack	1	

Ref. No.	Part No.	Part Name & Description		Pcs / Set	Remarks
R11	ERD10TJ562		5.6K	1	
R12,13	ERJ8GCJ101	Chip	100	2	
R15	ERJ8GCJ270	Chip	27	1	
R16	ERD10TJ751		750	1	
R17	ERJ8GCJ121	Chip	120	1	
R18	ERD10TJ393		39K	1	
R19	ERD25FJ560	1/4W	560	1	
R20,21	ERD10TJ822		8.2K	2	(UO-1)
R22	ERD10TJ391		390	1	(UO-1)
VR1	EVX138CA00B13	Variable	1K	1	
VR2	EVX138CA00B14	Variable	10K	1	
		Capacitors			
C1	ECEA1AK330	Electrolytic 10V	33	1	
C2	ECEA1HK3R3	Electrolytic 50V	3.3	1	
C3	ECCD1H101	Ceramic 50V	100P	1	
C4	CP2040CC	Chip	4P	1	
C5	CP2222MD	Chip	2200P	1	
C6	CP2150CC	Chip	15P	1	
C7	ECCD1H820K	Ceramic 50V	82P	1	
C8	CP2050CC	Chip	5P	1	
C9	CT1152ZX	Semiconductor	1500P	1	
C10	ECEA1EK4R7	Electrolytic 25V	4.7	1	
C11	CP2103MD	Chip	0.01	1	
C12	CP2150J	Chip	15P	1	
C13	CP2680J	Chip	68P	1	
C14	CP2151J	Chip	150P	1	
C15	CP2390J	Chip	39P	1	
C16	CP2270J	Chip	27P	1	
C17	ECV1ZW25X53N	Trimmer	25P	1	
C18	CP2181J	Chip	180P	1	
C19	CP2181J	Chip	180P	1	
C20	CY2102PE		1000P	1	(UO-1)
C21	CX2331KB		330P	1	(UO-1)
C22	CX2140K		14P	1	(UO-1)
C23	CX2040C		4P	1	(UO-1)
C24		Variable	7P	1	(UO-1)
					(Not Available)
C25	CP2070J	Chip	7P	1	
C26	CP2103MD	Chip	0.01	1	
C27	ECEA1CK470	Electrolytic 16V	47	1	
C28	CP2103MD	Chip	0.01	1	
C29	CP2102MD	Chip	1000P	1	
C30	ECCD1H010CC	Ceramic 50V	1P	1	(UO-1)
C31	CP2102MD	Chip	1000P	1	
C32	ECCD1H040CC	Ceramic 50V	4P	1	
C33	CU2DR2QA-S		0.2P	1	(UO-1)
		Coils			
L1	LP403804			1	
L2	FL3H8R2K	Peaking	8.2μH	1	
L3	LB1626092A02	Choke		1	
L4	LN07W350VL01			1	(UO-1)
L5	LN08W200L6			1	(UO-1)
L6	LB162609VU03	Choke		1	(UO-1)
		Transformer			
T1	VLT0327	SIF Oscillator		1	
T2	BRNA010V			1	

Ref. No.	Part No.	Part Name & Description		Pcs / Set	Remarks
		Miscellaneous			
P1	VJP1143	Connector	5P	1	
PJ	PNJA002E	Pin Jack		1	
		Sensor Lamp			
D1501,1502	LN58	LED		2	
		Supply Photo Sensor			
Q1503	PN150NV	Photo Transistor		1	
		Takeup Photo Sensor			
Q1504	PN150NV	Photo Transistor		1	
		Review Sensor			
	DN6838	Hall IC		1	
		Reel Sensor			
	DN6838	Hall IC		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VSQ0223	RF Converter Unit		NV-333E/EG/EO
		Integrated Circuit		
IC1	BA7003		1	
		Transistor		
Q1	2SC684		1	
		Diodes		
D1,2	ISS97		2	
		Resistors		
R1	ERD10TJ112	1.1K	1	
R2	ERD10TJ333	33K	1	
R3	ERD10TJ271	270	1	
R4	ERD10TJ683	68K	1	
R5	ERD10TJ013	1K	1	
R6	ERD10TJ162	1.6K	1	
R7	ERD10TJ331	330	1	
R8	ERD10TJ272	2.7K	1	
R9	ERD10TJ470	47	1	
R10	ERD10TJ680	68	1	
R11	ERD10TJ221	220	1	
R12	ERD10TJ013	1K	1	
R13	ERD10TJ162	1.6K	1	
R51	ERD10TJ222	2.2K	1	
R52	ERD10TJ332	3.3K	1	
R53	ERD10TJ391	390	1	
VR1	9PNXB13	Variable 1K	1	
		Capacitors		
C1	ECEA1HS010	Electrolytic 50V 1	1	
C2	ECCF1H103CC	Ceramic 0.01	1	
C3	ECEA1HS010	Electrolytic 50V 1	1	
C4	ECCF1H473CC	Ceramic 0.047	1	
C6	ECEA1HS100	Electrolytic 25V 10	1	
C7	ECCF1H473CC	Ceramic 0.047	1	
C8	ECCF1H103CC	Ceramic 0.01	1	
C9	ECCF1H180CC	Ceramic 18P	1	
C10	ECCF1H080CC	Ceramic 8P	1	
C11	ECCF1H330CC	Ceramic 33P	1	
C12	ECCF1H680CC	Ceramic 68P	1	
C13	ECCF1H820CC	Ceramic 82P	1	
C14	ECCF1H050CC	Ceramic 5P	1	
C15	ECCF1H510CC	Ceramic 51P	1	
C16	ECCF1H473CC	Ceramic 0.047	1	
C17	ECEA1HS100	Electrolytic 50V 10	1	
C20	ECEA1HS120CC	Ceramic 12P	1	
C51	CX2180	18P	1	
C52	CX2510	51P	1	
C53	ECEA1HS010CC	Electrolytic 1P	1	
C55	CX2050	5P	1	
VC1	MM042-M044	Variable	1	
		Coils		
L1	LA04NAR33M	33µ	1	
L51	MLU275-11			
		Transformers		
T1	MEK13K	IF Transformer	1	
T2	MM039-031		1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Miscellaneous		
P1	MKY152	Connector 5P	1	
PJ	MMY169	Pin Jack	1	
	ENC17552	RF Converter Unit		NV-333B
		Integrated Circuit		
IC1	AN6395		1	
UO-1		UHF Oscillator	1	
		Transistors		
Q1,2	2SD636		2	
Q3,4	2SC1215		2	(R)
		Diodes		
D1	1S953		1	
D2,3	1SS86		2	
D4	RD7.5E	Zener	1	or MA1075
		Resistors		
R1	ERD10TJ333	33K	1	
R2	ERJ8GCJ103	Chip 10K	1	
R3	ERJ8GCJ331	Chip 330	1	
R4	ERJ8GCJ474	Chip 470K	1	
R5	ERJ8GCJ392	Chip 3.9K	1	
R6	ERD10TJ182	1.8K	1	
R7	ERJ8GCJ122	Chip 1.2K	1	
R8	ERJ8GCJ821	Chip 820	1	
R9	ERJ8GCJ562	Chip 5.6K	1	
R10	ERJ8GCJ151	Chip 150	1	

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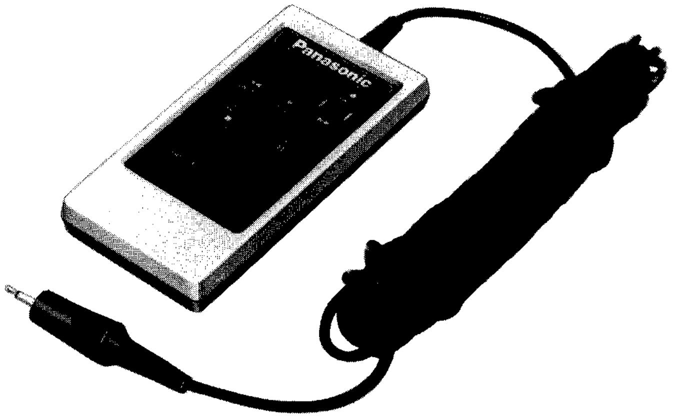
Service Manual

Wired Remote Control

NV-A33-E



SPECIFICATIONS

Weight:	90.0 g
Dimensions:	50(W) × 14(H) × 100(D) mm

Weight and dimensions shown are approximate.

Specifications are subject to change without notice.

Panasonic

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INTRODUCTION

This NV-A33-E wired remote controller has been specially developed for the remote control of the video cassette recorder NV-333-E, -EG, -B, -EO.
The buttons on the controller are operated directly, and altogether 6 functions are provided: recording, playback, stop, rewind, fast forward, pause/still.

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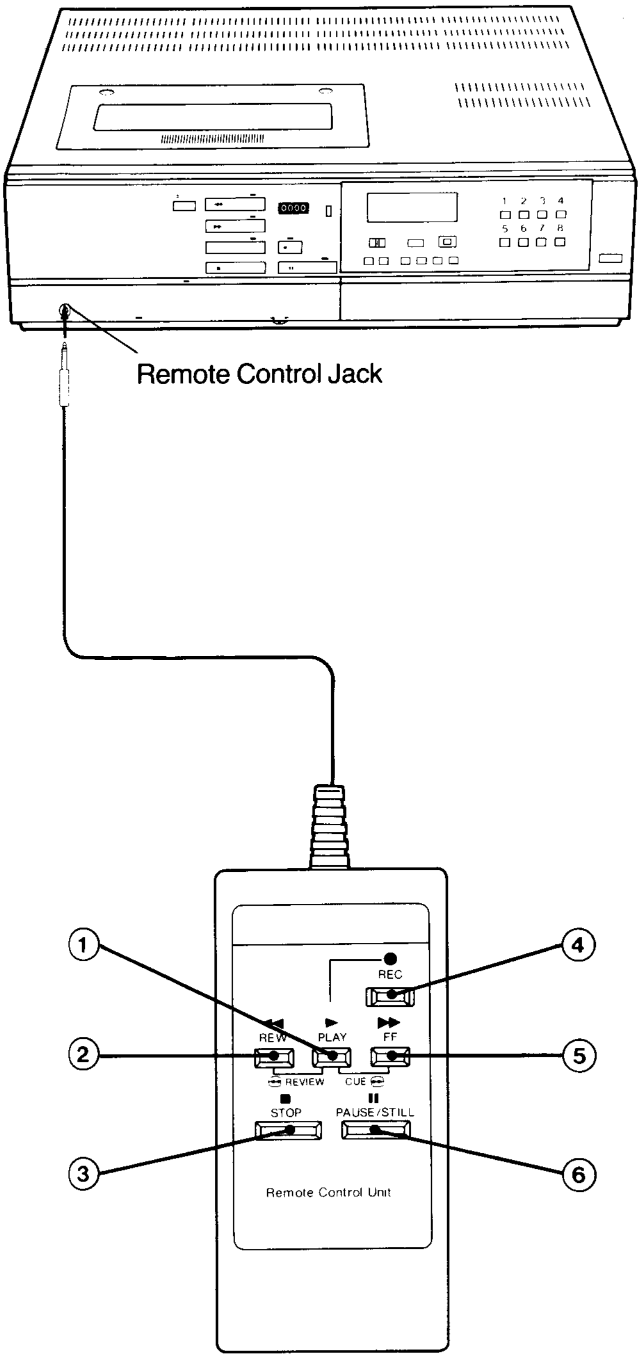
INSTALLATION AND THEIR FUNCTIONS



Operations may be performed from a distance with the supplied remote controller. (The cord length is approximatery 5 meters).

When the remote controller has been connected to the video recorder, stop and eject functions only are operational using the video recorder's controls since all other functions are made non-operational.

Prepare for Remote Control as follows:

- Connect the Remote Controller to VTR.
- Turn VTR Switch to ON.
- Timer Rec Switch is OFF.
- Insert a cassette.

Remote control can be operated the same as the recorder.

① **Play Button**
Push to play back a recorded tape.

② **Rewind Button**
Push to rewind the tape.
When this button is pressed during playback, the video image will play back in reverse at 5 times normal speed. The review playback will continue as long as the button is depressed.

③ **Stop Button**
Push to stop the tape.
This button must be pushed before "Eject".

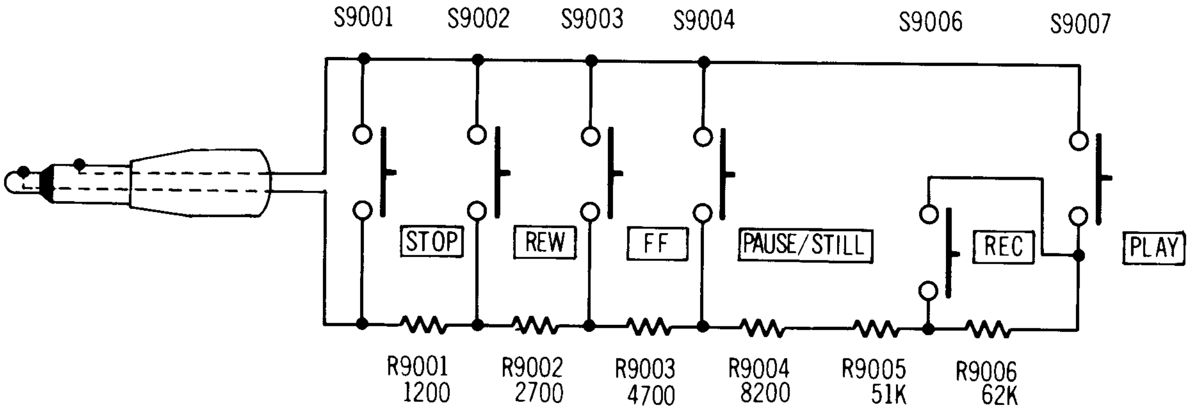
④ **Record Button**
Push together with Play Button to start recording.

⑤ **Fast Forward Button**
Push to fast-forward wind the tape.
When this button is pressed during playback, the video image will play back at 5 times normal speed. Cueing will continue as long as the button is depressed.

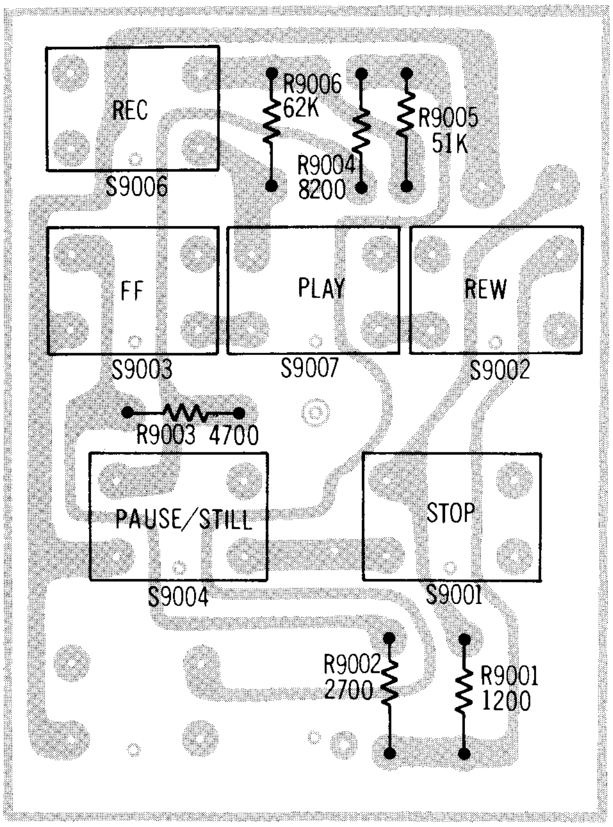
⑥ **Pause Button**
Push to temporarily stop the tape during recording in order to avoid recording unwanted material, or to view a paused picture during playback. Push again to release the tape from pause.

REMOTE CONTROL UNIT

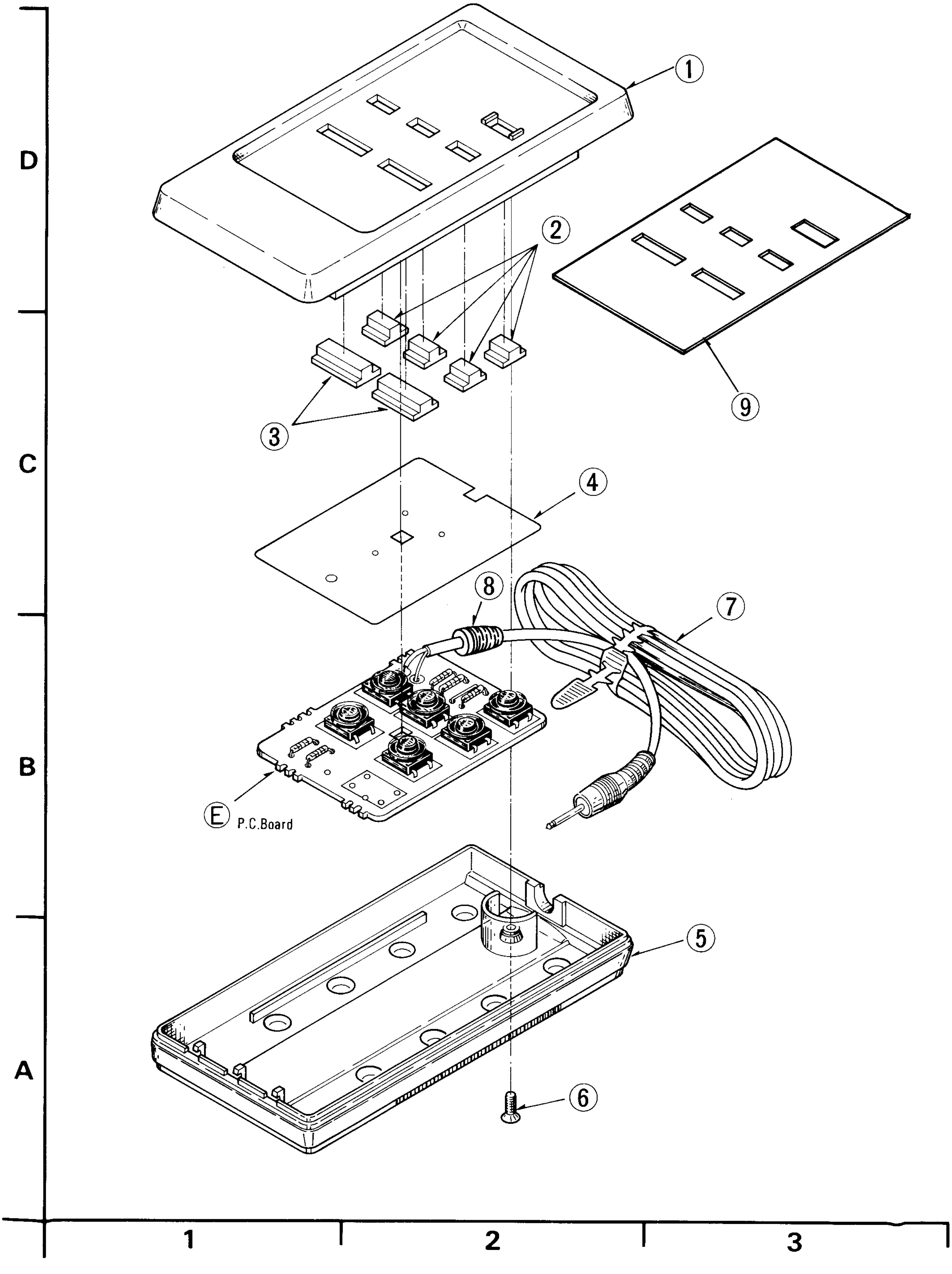
REMOTE CONTROL SCHEMATIC DIAGRAM


S9001
S9002
S9003
S9004
S9006
S9007
STOP
REW
FF
PAUSE/STILL
REC
PLAY
R9001
1200
R9002
2700
R9003
4700
R9004
8200
R9005
51K
R9006
62K

REMOTE CONTROL BOARD (VJB09001)


REC
S9006
R9006
62K
R9004
8200
R9005
51K
FF
S9003
PLAY
S9007
REW
S9002
R9003 4700
PAUSE/STILL
S9004
STOP
S9001
R9002
2700
R9001
1200

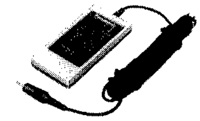
EXPLODED VIEW



①
②
③
④
⑤
⑥
⑦
⑧
⑨
Ⓔ P.C.Board
D
C
B
A
1
2
3

MECHANICAL REPLACEMENT PARTS LIST

Model No. NV-A33-E



Notes:
1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
1	VKM0158	Top Case	1	
2	VGU0592	Button(A)	4	
3	VGU0593	Button(B)	2	
4	VMZ0413	Insulating Filmy Sheet	1	
5	VKM0159	Bottom Case	1	
6	VSS26+10BN	Screw	1	
7	VEC0289	Cord Unit	1	
8	VJF0128	Cord Bushing	1	
9	VGN1982	Name Plate	1	

ELECTRICAL REPLACEMENT PARTS LIST

Model No. NV-A33-E

Notes:
1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
3. Unless otherwise specified,
   All resistors are in OHMS (Ω), 1/8W ±5% carbon. K=1,000Ω, M=1,000KΩ.
   All capacitors are in MICROFARADS (μF), ±10% P=μμF.

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VJB09001	Wired Remote Control	1	
		P.C.Board		
		Resistors		
R9001	ERD10TJ122	1.2K	1	
R9002	ERD10TJ272	2.7K	1	
R9003	ERD10TJ472	4.7K	1	
R9004	ERD10TJ822	8.2K	1	
R9005	ERD10TJ513	51K	1	
R9006	ERD10TJ623	62K	1	
		Switchs		
S9001-9004	EVQQJ14K		4	
S9006,9007	EVQQJ14K		2	